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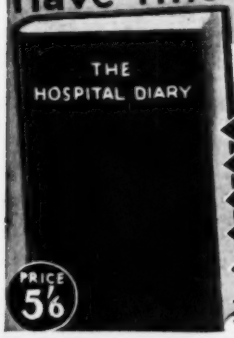

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ADDRESSES AND ORIGINAL ARTICLES

EPITHELIOMA PRIMARY IN THE RENAL PELVIS

REPORT OF FORTY-FIVE CASES

BY

HUGH CABOT, C.M.G., M.D., F.A.C.S.

DIVISION OF SURGERY, THE MAYO CLINIC

AND

RAYMOND B. ALLEN, M.D.

FELLOW IN UROLOGY, THE MAYO FOUNDATION, ROCHESTER, MINNESOTA

IMPORTANT contributions to knowledge of epitheliomas primary in the renal pelvis have been made by Albarran, Steusser, Mock, Braasch, Lower, Kretschmer, Broders, Hunt, Speiss, Scholl, and Foulds. Their work has called attention to a comparatively rare but significant form of carcinoma which arises in the mucous membrane of the renal pelvis. Although there is complete uniformity in the type cell of these tumours (squamous cell), these observers have pointed out that there are wide differences in gross appearance, as well as in the degree of cellular differentiation, that is, grades of malignancy which have an important bearing on the natural history of the tumour, the treatment, and the prognosis. The tumour may take one of two gross forms and occasionally may combine features of both. Most commonly the growth is papillary and either partially or completely fills the renal pelvis and calices. Consequently it may obstruct the flow of urine with resulting hydronephrotic atrophy. The papillary type of tumour is further distinguished by a marked tendency to form implants along the ureter and in the bladder, an attribute which is sometimes a source of confusion in the consideration of tumours of the bladder. Less commonly the tumours may be sessile and exhibit invasive qualities spreading by direct extension into the renal parenchyma or, more rarely, through the wall of the pelvis into the perirenal tissue of the hilus and along the renal vessels. Rarely either type, but usually sessile forms, may give rise to distant visceral metastasis.

The present study is an attempt to determine whether the type of the tumour or the method of treatment influences the prognosis in a given case. An analysis of this kind is now possible since a considerable number of cases have been traced over a period of years, and accurate records of the lesion and the treatment are available in the files of the Mayo Clinic. Detailed protocols of the cases under consideration will not be given; however, the essential findings, treatment, and results will be presented (Tables I. and II.). Individual cases in which important features in diagnosis and treatment are illustrated will be commented on more in detail.

INCIDENCE

Forty-five cases of primary epithelioma of the renal pelvis have been seen at the Mayo Clinic in a 26-year period (1907 to 1933). Nineteen of these have been reported by Hunt, Scholl, and Scholl and Foulds, but they are included in the present report (Table I.) because additional data on the duration of life are now available. On the basis of the number of patients registering at the clinic in this same period, the ratio of cases of epithelioma of the renal pelvis is 1 in 18,358 cases. Adenocarcinoma (hypernephroma) was encountered at operation during the same period in 482 cases, thus indicating that adenocarcinoma is approximately 11 times more common than epithelioma of the renal pelvis.

The age-incidence of the patients with primary epithelioma of the renal pelvis varied from 23 to 73 years; the mean age was $53^{2}/_{10}$ years. Of the 45 cases, 33 (73·3 per cent.) were males, and 12 (26·6 per cent.) were females. The cases were evenly divided as to the side involved, the right kidney in 22 cases, and the left kidney in 23 cases.

SYMPTOMS

One or more symptoms referable to the urinary tract were present in all of the cases (data not included in tables). The chief complaint on admission to the clinic was hæmaturia in 19 cases (42·2 per cent.), pain in 19 cases (42·2 per cent.), tumour in the abdomen in 4 cases (8·9 per cent.), urinary frequency in 1 case, weakness in 1 case, and stomach trouble in 1 case. The first symptom noted by the patient was hæmaturia in 24 cases (53·3 per cent.), pain in 16 cases (35·5 per cent.), tumour in 3 cases (6·6 per cent.), and frequency of urination in 2 cases (4·4 per cent.). Hæmaturia was present in 29 cases (64·4 per cent.), and was first noticed by the patient on an average of $23^{5}/_{10}$ months before examination at the clinic. The average range varied from 2 to 132 months. Pain was a symptom in 36 cases (80 per cent.), including all cases (10) in which nephrolithiasis was associated.

DIAGNOSIS

In all of the cases at least one symptom and often several symptoms (hæmaturia, pain, and tumour) directed attention to the urinary tract. However, it was not unusual for the patient to have temporised for many months before seeking urologic or surgical opinion. In all cases of hæmaturia a thorough examination of the upper part of the urinary tract should be made even in the presence of suspected bleeding points in the bladder or urethra. In at least two of the cases treatment had been given for what was assumed to be hæmorrhagic cystitis or pyelonephritis for several months before the true nature of the disease was discovered. Renal pain and renal tumour of course always require careful investigation. Before the advent of exact methods of urologic diagnosis it was usually impossible to recognise renal tumours except by operation. With the aid of the ureteral catheter and fluid mediums opaque to Roentgen rays, either injected (retrograde pyelogram) or excreted (intravenous or excretory urogram) into the renal pelvis, it is now possible in a high percentage of cases to make a presumptive diagnosis of tumour, basing the diagnosis on the deformity produced in the outline of the pelvis and calices. It is not always possible to predict from a pyelogram the character of the tumour; nevertheless the pyelogram has many times proved its value by indicating the site of neoplastic disease, and therefore is of inestimable value to the surgeon. Comparison of the deformity as visualised in the pyelogram with the deformity as seen in the specimen after surgical removal has developed a high degree of accuracy in the clinical recognition of the various forms of renal tumour.

Epitheliomas primary in the renal pelvis will usually produce a filling defect in the pyelographic

TABLE I.—SUMMARY OF DATA ON CASES PREVIOUSLY REPORTED

Author.	Case.	Age and sex.	Type and date of operation.	Radiotherapy.	Surgical and pathological findings.							Comment.
					Tumour.				Kidney.			
					Gross description, size.	Grade of malignancy.	Extension.	Implants.	Amount destroyed, per cent.	Hydronephrosis, grade.	Stone.	
Scholl and Foulds	1	62 M	R. nephrect. and partial ureterect., Aug., 1922.	0	P. and S. (huge and invasive).	High.	0	0	100	4	+	D. March, 1927, 55 m. after operation; apoplexy.
	2	53 F	R. nephrect. and partial ureterect., June, 1920.	0	S. (invasive).	,,	Along renal vein.	0	50	0	0	D. July, 1920, 11 days after op.
	3	54 M	R. nephrect. and partial ureterect., May, 1909.	0	P. and S. (invasive).	Moderate.	..	0	90+	0	+	D. July, 1909, 2 m. after op.; metastasis to liver.
	4	54 M	R. nephrect. and partial ureterect., Aug., 1915.	0	S. (invasive).	,,	0	0	100	0	+	D. at home Oct., 1915, 2 m. after op.
	5	64 M	L. nephrect. and partial ureterect., Nov., 1907.	0	,,	,,	0	0	50+	0	+	D. at home more than 5 m. after op.
Scholl	6	48 M	R. nephrect. and later ureterect., Feb., 1922.	0	P. (large).	2	0	0	20+	4	0	D. at home Aug., 1924, 30 m. after op.
	7	61 M	L. nephrect. and partial ureterect., Feb., 1921.	0	,,	2	0	0	100	4	0	D. at home Aug., 1921, 6 m. after op.
	8	46 M	Fulguration bladder tumour; L. nephrect. and ureterect., Nov., 1922.	0	,,	2	0	Ureter, bladder.	60+	2	0	D. at home Sept., 1923, 9 m. after op.
	9	65 M	L. nephrect. and partial ureterect., March, 1919.	0	,,	2	0	0	40+	3	0	Living Aug., 1932, 12 yrs. and 5 m. after operation.
	10	34 M	L. nephrect. and partial ureterect., Feb., 1919; stump of ureter and papilloma of bladder removed, Nov., 1919.	Radium to bladder.	,,	2	0	Nov., 1919, bladder tumour.	60+	4	0	D. at home Nov., 1926, 7 yrs. and 9 m. after op.
	11	49 M	L. nephrect. and partial ureterect., fulguration of bladder tumour, Sept., 1919; later ureterect. and removal of bladder tumour.	Radium and X ray to bladder tumour.	Papillary (3×3×4·5 cm.).	2	..	Recurrent bladder tumour.	10–	2	0	Living Aug., 1932, 13 yrs. after op.
	12	55 M	L. nephrect. and partial ureterect., Nov., 1917; ureterect. and segmental resection of bladder, Jan., 1919.	Radium and X ray; March, 1920, radium suprapubic fulguration.	P. (large) (5×6 cm.).	2	..	,,	10–	2	0	D. March, 1921, 32 days after segmental resection of bladder, 25 m. after first operation.
	13	47 M	R. nephrect. and partial ureterect., May, 1910.	..	P. (large) (10×12 cm.).	2	0	0	20+	+	+	D. at home Oct., 1910, 5 m. after op.
Hunt*	14	54 F	L. nephrect. and partial ureterect., June, 1924.	0	P. (large).	3	0	0	60	4	0	D. March, 1930, 69 m. after operation; heart attack.
	15	57 F	R. nephrect. and partial ureterect., March, 1926.	0	P.	4	0	0	10+	1	0	D. March, 1927, embolism, 10 days after segmental resection of bladder, 1 yr. after first op.
			Ureterect. and segmental resection of bladder, Feb., 1927.	0	,,	4	..	Ureter.	..	..	..	
	16	42 M	R. nephrect. and partial ureterect., Jan., 1927; ureterect. and segmental resection of bladder two weeks later.	0	P. (6×4×3 cm.).	2	0	0	10+	1	0	Living Aug., 1932, 68 m. after op.
	17	40 F	L. nephrect. and complete ureterect., Feb., 1927.	0	P. (1 cm.).	2	0	Bladder and ureter.	100	4	0	Living and well Jan., 1932, 60 m. after operation.
	18	44 M	L. nephrect. and complete ureterect., Feb., 1927.	0	P.	2	0	..	20+	2	0	Living Aug., 1932, 66 m. after op.

P. = papillary; S. = sessile; D. = died; m. = months. +, stone.

* Hunt's Case 9 was the same as Case 1 reported by Scholl and Foulds; his Case 11 was a case of epithelioma primary in the upper portion of the ureter, there was no tumour in the pelvis.

outline of the renal pelvis and calices (Figs. 1 and 2). When the tumour is complicated by hydronephrosis, especially if marked, the filling defect may be obscured and is therefore often overlooked. It thus happens that many cases of epithelioma are not detected until the hydronephrotic kidney is removed at operation. Occasionally a filling defect is produced by a soft non-shadow casting stone which cannot be distinguished from papillary epithelioma. A blood clot in the pelvis and granulomatous lesions may also be causes of filling defects in a pyelogram. An epithelioma of the pelvis will sometimes distort the outline of the calices to a very marked degree, making it difficult to distinguish such a tumour from an adenocarcinoma rising in the parenchyma of the kidney. This is well illustrated by pyelograms (Cases 42 and 38, Figs. 3 and 4), which have many of the characteristics of adenocarcinoma (hypernephroma) of the kidney. Not infrequently the diagnosis of epithelioma of the pelvis is missed because a papillary tumour of the bladder is thought to be the source of the hæmaturia. Since, as has been mentioned, a large fraction (one-third in this series) of papillary tumours of the renal pelvis form implants in the ureter or bladder, the kidneys must always be excluded as a possible site of origin of vesical tumours. This can be accomplished in most cases by the simple expedient of making an excretory (intravenous) pyelogram. If, however, a functionless kidney is discovered to be associated with tumour of

TABLE II.—SUMMARY OF DATA ON PRESENT SERIES OF CASES

Case.	Age and sex.	Type and date of operation.	Radio-therapy.	Surgical and pathological findings.							Comment.
				Tumour.				Kidney.			
				Gross description, size.	Grade of malignancy.	Extension.	Implants.	Amount destroyed, per cent.	Hydronephrosis, grade.	Stone.	
19	68 F	R. nephrect. and partial ureterect., Aug., 1923.	0	P. (4 × 3 × 2 cm.).	3	0	0	10–	1	0	D. at home March, 1927, 43 m. after operation.
20	44 M	R. nephrect. and partial ureterect., Aug., 1925.	0	P. (large, invasive).	3	0	0	100	4	+	D. at home Nov., 1925, 2 m. after operation.
21	50 M	R. nephrect. and partial ureterect., Sept., 1926.	Radium to sinus.	,,	3	Capsule renal vein.	0	60	Pyo-nephrosis	0	D. at home Dec., 1926, 3 m. after operation; carcinoma.
22	52 M	R. nephrect. and partial ureterect., Dec., 1926.	0	P. (large) (7·5 × 12 cm.).	4	0	..	100	4	0	D. March, 1929, 26·5 m. after first op.; recurrent abdominal tumour.
		R. ureterect. and segmental resection of bladder, Oct., 1928.	0	P.	4	..	Ureter, bladder.	..	..	..	
23	52 M	R. nephrect. and partial ureterect., Sept., 1926.	Radium to sinus; X ray.	P. (invasive).	3	Ureter capsule psoas muscle.	..	100	Pyo-nephrosis	0	D. at home Nov., 1926, 1·25 m. after operation.
24	67 M	R. nephrect., ureterec., and segmental resection of bladder, Aug., 1927.	0	P.	3	0	Ureter.	100	4	0	D. at home Aug., 1929, 24 m. after operation.
25	41 M	R. nephrect. and partial ureterect., Aug., 1927; ureterect. and segmental resection of bladder, Sept., 1927.	0	P. (31 × 26 × 12 cm.)	3	0	,,	100	4	0	Living Dec., 1932, 64 m. after operation; extensive recurrence in bladder, palliative X ray therapy.
26	47 M	L. subcapsular nephrect. and partial ureterect., Dec., 1927.	X ray.	P. (2 × 4 × 4 cm.).	4	Perirenal fat at hilus.	..	100	4	0	No recurrence 48 m. after operation.
27	56 M	R. nephrect. and partial ureterect., March, 1928.	0	P. (5 × 3 × 2 cm.).	2	0	0	10	1	0	D. at home, Jan., 1931, 34 m. after operation.
28	60 M	L. nephrect. and partial ureterect., April, 1928.	0	P. (multiple tumours of pelvis).	2	0	Ureter, bladder.	100	4	0	D. May, 1928, 2 weeks after second op.; peritonitis, pneumonia.
		L. ureterect. and segmental resection of bladder, May, 1928.	..	..	..	..	,,	..	..	..	
29	67 M	L. nephrect. and ureterect., April, 1928.	Radium to sinus; X ray.	P.	3	Along sinus.	0	75	4	0	D. at home Nov., 1928, 7 m. after operation.
30	41 M	L. nephrect. and partial ureterect., Sept., 1928.	0	P. (2·5 × 2·5 × 1 cm.)	1	0	0	10	1	0	Well 48 m. after op.
31	54 F	L. nephro-ureterect., Sept., 1928.	X ray, radium.	P.	4	..	Ureter.	90	4	0	D. Feb., 1929, 4 m. after op.; recurrent tumour.
32	61 M	L. nephrect. and partial ureterect., Jan., 1929.	0	S. (invasive).	2	Peritoneum, perirenal fat.	0	90	2	0	8 m. after op. stomach trouble; otherwise well.
33	56 F	L. nephrect. and partial ureterect., July, 1929.	0	P. (9 × 5 × 5 cm.).	3	0	0	100	Pyo-nephrosis	+	D. Nov., 1930, 16 m. after operation; recurrence; X ray.
34	69 F	R. nephrect. and partial ureterect., Sept., 1929.	Radium.	P. (6 × 4 × 2 cm.).	3	0	0	100	4 infected.	+	D. at home Nov., 1929, 2 m. after operation.
35	68 F	R. nephrect. and partial ureterect., Nov., 1929.	0	P. (2·5 × 2 cm.).	2	0	0	10	0	0	Well 29 m. after op.
36	47 M	L. nephrect. and partial ureterect., Dec., 1929.	0	P. and S. (invasive) (10 × 9 × 8 cm.).	3	Retro-peritoneal.	Ureter.	90	4	0	D. Jan., 1933, 10 days after op.; metastasis to liver, syphilis.
37	49 M	L. nephro-ureterect., July, 1930.	X ray.	P. (fills pelvis).	2	0	0	50	2	0	Living Aug., 1933, 36 m. after op.; recurrent bladder tumour.
38	49 M	L. nephro-ureterect., Sept., 1930.	0	P. (5 × 5 × 4 cm.).	1	0	0	40	Hæmorrhagic cyst of cortex.	0	No recurrence 24·5 m. after operation.
39	54 M	R. nephrect. and partial ureterect., Sept., 1930.	X ray (5 courses).	P. (8 × 5 × 2·5 cm.).	3	Peripelvic tissue.	0	100	4 infected.	•	D. at home 6 m. after operation.
40	50 F	R. nephro-ureterect., Dec., 1930.	Recurrent bladder tumour, treatment by fulguration.	P. (5 × 4 × 2 cm.).	2	0	0	10	2 infected.	+	Well 24 m. after operation.
41	58 F	R. nephro-ureterect., Sept., 1931.	X ray (5 treatments).	Multiple flat areas.	2	0	Ureter +	100	4 hæmorrhage infected.	0	Well 2 m. after operation.
42	73 M	L. nephrect. and partial ureterect., Feb., 1932.	Radium in drainage-tube.	P. (10 cm.).	3	0	0	60	3	0	D. at home Nov., 1932, 9 m. after operation; metastasis.
43	25 F	L. nephro-ureterect., Aug., 1932.	X ray.	P. (lower calyx incysted).	2	0	0	30	0	0	Well 9 m. after op.
44	49 M	R. nephrect. and partial ureterect., Dec., 1932.	0	P. (invasive).	3	Peripelvic parenchyma.	Bladder (fulguration).	90	3	0	Living 5 m. after op.; recurrence of bladder tumour.
45	57 M	L. nephro-ureterect., July, 1932.	0	P. (4 × 3 × 1 cm.).	3	0	Ureter.	70	4 infected.	+	In clinic Feb., 1933, 7 m. after operation; examination negative.

• Calcareous deposit. +, stone.

the bladder, it should not be assumed that the failure of function is secondary to the lesion in the bladder, because this lesion may be an implant from a papillary epithelioma in the renal pelvis which has destroyed the kidney. For example, in Case 25 cystoscopy revealed a papillomatous tumour graded 3 (Broders' method; v. infra) in the region of and apparently obstructing the ureteral meatus, since it would not admit a catheter. A large cystic mass in the abdomen proved to be a huge hydronephrotic sac containing papillary epithelioma graded 3. In August, 1927, complete nephro-ureterectomy and segmental resection of the adjacent wall of the bladder were done in two stages. The patient was well until the autumn of 1932 when hæmaturia recurred, and by December, when he was again examined, a recurrent lesion involved half of the bladder and appeared to extend beyond the bladder. A supraclavicular lymph node was enlarged and was thought to be the site of a metastatic lesion from the bladder. Palliative Roentgen ray treatment was instituted.

In brief, then, all cases of tumour of the bladder, especially those which involve the ureteral meatus, all cases of unexplained hæmaturia of possible renal origin, all cases of hydronephrosis including those associated with stone, and all cases in which there is renal pain, should be examined carefully for evidence of epithelioma primary in the renal pelvis. A positive pre-operative diagnosis is often difficult and may be impossible, especially in cases of advanced hydronephrosis or obstruction of the ureter.

SURGICAL AND PATHOLOGIC DATA

Marked hydronephrotic atrophy with virtual destruction of the kidney was present in 21 cases (46·6 per cent.), and lesser degrees of hydronephrosis were present in 17 cases (37·7 per cent.). There were in all 38 cases (84·4 per cent.) of hydronephrosis. Lithiasis was noted in 10 cases (22·2 per cent.), which included 5 of the 10 cases in which the tumour was sessile or invasive. Scholl, Foulds, and others have called attention to this association and suggest that it might be of ætiologic significance.

The tumour was papillary in 33 cases (73·3 per cent.) and localised to the renal pelvis in 20 cases (44·4 per cent.). Implants in the ureter or bladder were present in 13 cases (28·8 per cent.). The tumour was sessile or invasive in 10 cases (22·2 per cent.). The neoplasm had invaded perirenal tissue in 7 cases (15·5 per cent.).

With Broders' method of classifying neoplasms according to the degree of cellular differentiation, growths with the greatest degree of differentiation of cells (75 to 100 per cent.) and the least malignant are graded 1, and those with the least degree of differentiation (0 to 25 per cent.) and the most malignant are graded 4. Grades 2 and 3 are intermediate forms. In this series there were 2 tumours graded 1 (4·4 per cent.), 21 graded 2 (46·6 per cent.), 18 graded 3 (40 per cent.), and 4 graded 4 (8·8 per cent.).

TREATMENT

Nephrectomy and partial ureterectomy was done in 26 cases (57·8 per cent.). Nephrectomy and total ureterectomy with segmental resection of the adjacent wall of the bladder was done in 13 cases (28·8 per cent.). Nephrectomy with partial ureterectomy followed by total ureterectomy, and segmental resection of the bladder at a later time, was done in 6 cases (13·3 per cent.). Some form of radiation (radium or Roentgen ray) was instituted after operation in 14 cases (31·1 per cent.).

MORTALITY

The operative mortality was 6·6 per cent. (3 cases). The patient in Case 2 died on the eighth day, apparently from pulmonary embolism. The patient in Case 28 died from peritonitis and bronchopneumonia two weeks after a difficult ureterectomy had been performed. The patient in Case 36 died ten days after the operation, and necropsy disclosed metastatic lesions in the liver and regional lymph nodes and syphilitic aortitis.

DURATION OF LIFE AFTER OPERATION

Of the 45 patients in the series, 28 are known to be dead, 3 having died in hospital and 25 in their homes. The remaining 17 patients have been traced or have recently been seen at the clinic. Excluding the 3 deaths in hospital, the average duration of life after operation of the 25 patients known to be dead was $19^{2}/_{10}$ months (range of 2 to 69 months). The average duration of life of the 15 living patients is 49 months (range of 2 to 156 months). This group includes 6 patients who have outlived 5 years, 2 of whom have passed 12 years. Five patients when last heard from were in their first year following the operation. Eight of the entire series have outlived 5 years, a group which represents 25·8 per cent. of the 31 patients who are either dead (25) or have lived 5 years after operation (6).

Tumours with implants in ureter or bladder.—When the cases are studied with reference to evidence of implants in the ureter and bladder and invasion of the parenchyma of the kidney and perirenal tissue, striking differences appear in the duration of life. In 18 cases the tumour was papillary and entirely limited to the renal pelvis or calices. The average duration of life in this group was $35^{1}/_{10}$ months; 7 patients are still living.

In 15 additional cases the tumour was also papillary, but these cases are grouped separately because implants were present (or developed later) in the ureter or bladder. The average duration of life in this group (excluding the patients in Cases 28 and 36 who died in hospital) is $39^{6}/_{10}$ months. Of this group 4 patients are still living. The average duration of life in the two groups taken together is 37 months. These groups include 13 cases (59·1 per cent.) of the 22 cases in which the tumours were graded 3 or 4, or 41·9 per cent. of the 31 cases.

Tumours with invasion of renal parenchyma.—In 10 cases the tumour had invaded the renal parenchyma from either a papillomatous or a sessile primary lesion. In this group (excluding two patients who died in hospital) the average duration of life was significantly shorter than in previous groups, namely, $10^{2}/_{10}$ months. Two patients of this group are still living (Cases 32 and 44). However, as one might expect, a larger proportion of the lesions (70 per cent.) of this group were graded 3 or 4 (31·8 per cent. of all tumours graded 3 or 4).

Tumours with invasion of perirenal tissue.—In 8 cases the tumour had invaded the perirenal tissue. The average duration of life in this group was $11^{1}/_{10}$ months, which includes 3 cases in which the patients are still living. Again in this group in 6 of the 8 cases (75 per cent.) the lesions were graded 3 or 4 (27·2 per cent. of all lesions graded 3 or 4).

Duration of life according to grade of malignancy.—Tumours graded 1: The two patients with tumours graded 1 are both living (Cases 38 and 30) 30 months and 48 months respectively after operation. Tumours graded 2: Excluding the patient who died in hospital (Case 28), the average duration of life of the 20 remaining patients with tumours

graded 2 is 40$^{9}/_{10}$ months (range 2 to 156 months). Of these, 10 patients are still living. Tumours graded 3: After excluding the two hospital deaths (Cases 2 and 36) the average duration of life of the remaining 16 patients with tumours graded 3 was only 17$^{1}/_{10}$ months. Three of these patients are still living. Tumours graded 4: Contrary to what might be expected, the average duration of life of the 4 patients with tumours graded 4 is quite long, 33$^{4}/_{10}$ months. Of this group, 1 patient (Case 36) is still living 4 years after operation.

EFFECT OF OPERATIONS

Nephrectomy and partial ureterectomy.—Twenty-six patients were treated by nephrectomy and partial ureterectomy; of these, 2 died in hospital (Cases 2 and 36). The 24 remaining patients lived an average of 23$^{1}/_{10}$ months (range 2 to 149 months); 7 are still living. Seventeen patients (65·3 per cent. of this group) had tumours graded 3 or 4, representing 77·2 per cent. of all tumours graded 3 or 4.

Complete nephro-ureterectomy and segmental resection of adjacent wall of bladder.—This operation, either in one or two stages, was performed on 19 patients, 1 of whom (Case 28) died in hospital. The 18 remaining patients lived an average of 37$^{8}/_{10}$ months (range 4 to 156 months) after operation. Of this group, 10 patients are still living. Three patients are still in the first post-operative year. Five patients in this group (26·3 per cent.) had tumours graded 3 or 4, representing 22·7 per cent. of all tumours graded 3 or 4.

Roentgen ray and radium.—Some form of deep radiation was instituted post-operatively in 14 cases. Radium was applied in 4 cases (Cases 21, 34, 42, and 10) through the drainage-tube to the renal area. The first two patients lived 2 months each, and the other two 9 months and 93 months respectively; the last patient had a tumour graded 2. Deep Roentgen rays was administered in 5 cases (Cases 26, 37, 39, 41, 43); the patients survived an average of 20$^{2}/_{10}$ months. The patient in Case 26 had a tumour graded 4 and is still living after 4 years. Combined Roentgen and radium treatment was carried out in 5 cases (Cases 11, 12, 23, 29, 31) with an average duration of life of 38$^{6}/_{10}$ months. Three of these patients had tumours graded 3 or 4; the average duration of life was 4$^{2}/_{10}$ months.

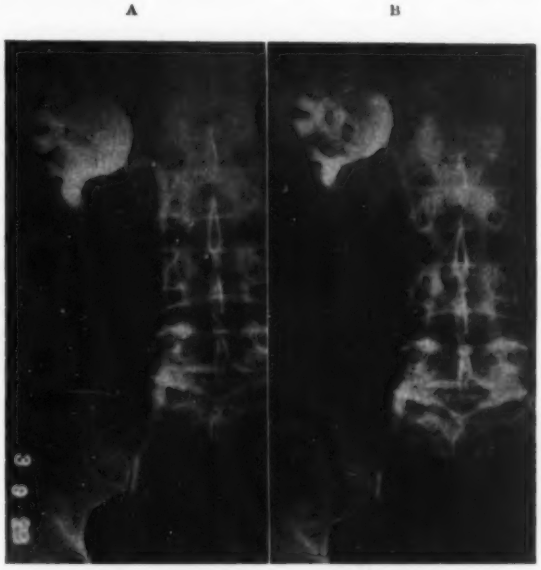

FIG. 1 (Case 27).—Filling defect suggested by the appearance of the pelvic outline in pyelogram A. Pelvis overfilled. Defect clearly shown in B when pelvis is not distended with a medium.

CONCLUSIONS

From this study of 45 cases of epithelioma primary in the renal pelvis, certain conclusions appear to be warranted:—

1. These neoplasms, although rare, constitute a well-defined variety of carcinoma, and they may be diagnosed by present methods in a large proportion

FIG. 2 (Case 36).—Numerous filling defects of pelvis and calices resulting in moderate dilatation. A ureteral implant (not visualised) caused moderate ureterectasis.

FIG. 3 (Case 38).—The superior calix is obliterated by the tumour. Deformities of this kind may be produced by a neoplasm arising in the renal parenchyma such as adenocarcinoma.

FIG. 4 (Case 42).—Partial obliteration and elongation of the superior calix. Elongation and distortion of the middle calix. This deformity is difficult to distinguish from that produced by adenocarcinoma.

of cases. In a few cases exploration is necessary to establish the diagnosis.

2. In this series symptoms had been present on the average two years before examination at the Mayo Clinic, and in many cases temporising treatment had been employed without adequate urologic investigation. It is reasonable to believe that with earlier diagnosis and treatment the prognosis in these cases will improve.

3. The prognosis is more favourable in the group of papillary tumours (37 months), when transplants have not formed in the ureter or bladder. The prognosis was definitely less favourable in the cases in which the lesion had invaded the renal parenchyma ($10^{3}/_{10}$ months) and the perirenal tissue ($11^{1}/_{10}$ months).

4. Tumours graded 1 (39 months) and 2 ($40^{9}/_{10}$ months) afforded a better prognosis than tumours graded 3 ($17^{1}/_{10}$ months). Four patients with tumours graded 4 survived an average of $33^{4}/_{10}$ months; this is encouraging, but the number of cases is too small to warrant a conclusion.

5. Total nephro-ureterectomy and segmental resection of adjacent wall of the bladder affords the best prognosis ($37^{8}/_{10}$ months).

6. Radiotherapy (radium and Roentgen rays) did not apparently alter the prognosis in a limited number of cases in which it was administered. One patient with a tumour graded 4 received Roentgen ray treatment and is still living four years after operation.

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WARD AND DORMITORY INFECTIONS*

By J. C. Spence, *M.C.*, M.D. Durh., F.R.C.P. Lond.

HONORARY ASSISTANT PHYSICIAN, ROYAL VICTORIA INFIRMARY, AND HONORARY PHYSICIAN, BABIES' HOSPITAL, NEWCASTLE-UPON-TYNE

Had a meeting been summoned in this place 65 years ago, to discuss the problem which engages us to-night, it were highly probable that James Young Simpson would have been here with tales of hospitals swept by pestilence and fevers. He would have reminded his listeners that in our large city hospitals half of those whose legs were amputated died shortly of pyrexia, gangrene, or erysipelas; that an amputation of the forearm carried the risk of death to one in five; that it was ten times safer to have an operation done by a country practitioner in a village house than by a skilful surgeon in a ward made "insalubrious by morbific hospital influences." With fervour he would have said that many hospitals do more harm than good; that they were "pest-houses, the air and walls of which were contaminated with putrefying substances passing from one sick body to another." He would have poured contempt on a pedantic report of "a Mr. Holmes" and "a Mr. Bristowe," published in a Government Blue-book for the Privy Council, which attempted to condone the excessive mortality of hospitals. No doubt he would have found time to pour cold water on the view of a young Mr. Lister that the problem of "hospital fever" could be solved by using carbolic acid in the wards. We may cavil at Simpson's petulant criticisms of Lister, but the danger of what he called "hospitalism" had been one of the chief concerns of his professional life. He had reached a stage of firm conviction that ward infections were to be prevented only by the building of small salubrious hospitals in ample space and with abundant fresh air, and we must admit that the fanaticism with which he advanced his views contributed largely to the reforms in hospital construction which slowly followed. He pointed the way by using these words in opening his last contribution to the subject:

> "Perhaps one of the most weighty and momentous questions to which at the present day the physician, the surgeon, and the accoucheur could direct his attention is the proper reconstruction and arrangement of our hospitals."

I take this backward glance to a familiar historical scene so that it may help us to preserve a sense of proportion in this discussion to-night. Ours is a world pricked to anxiety by journalistic descriptions of epidemics of this and outbreaks of that in schools and institutions. This mass suggestion acts fearfully in these days when, as Mr. Aldous Huxley has said, there are so many people, especially women, for whom bacilli have taken the place of the Devil, and microbes have become the personification of evil. For the sake of these people let us recognise what has been achieved in the last 65 years, and how safely we now live. It is an evident fact that infections will spread where people most do congregate, be it in wards, dormitories, or sewing meetings; but it is salutary to recognise how relatively free are most hospitals and schools from the dangers of epidemic diseases.

We shall have the advantage of listening to two other speakers with special knowledge of the technical problems concerning the bacteriology and mode of spread of infections in wards and dormitories. It will be my endeavour to outline the problem as it is seen through the eyes of one whose responsibility it is to choose patients who may be rightly and properly treated in hospitals, and whose duty it is to care for them when they are in hospitals. In this I am helped by experience of work in the wards of a general hospital, and of an infants' hospital. I am further helped by contact with the work† in two colonies for mentally defectives, an orthopædic hospital school, a "cottage homes" institution, a home for deaf-and-dumb children, a Salvation Army house for infants, and a children's sanatorium.

INSTITUTIONAL INCIDENCE

It is desired to limit the scope of our discussion by dealing with infectious diseases other than the exanthemata, but for comparison I shall not exclude these entirely.

On inquiry into the frequency of the various infectious diseases in different institutions it becomes evident that the incidence of the common infectious

* Contribution to a discussion at the Medical Society of London, Nov. 27th, 1933.

† In regard to information from these institutions I am particularly indebted to Dr. G. McCoull, Dr. W. Mackenzie, Dr. W. Holmes, Dr. Ian McCracken, Dr. M. Macnaughton, and Dr. T. C. Hunter.

diseases is largely a resultant of the age of the inhabitants, the social class from which they are drawn, and the type of work carried on in each institution. Thus each has its own individual problem according to its type and personnel. A home or school for better-class children who have been carefully safeguarded in early childhood will sooner or later be swept with measles, chicken-pox, and mumps. For comparison I may quote the example of a home for mentally defectives, in which there is free visiting and contact with the outside world. Its inhabitants are drawn from the poorest classes and are all above the age of 5.

There are 430 inmates in this home, and during the past five years there have been 6 cases of measles, 10 cases of mumps, 5 cases of scarlet fever, 21 cases of chicken-pox. In 1931 there was an outbreak of influenza which affected 199 of the inmates with no deaths. There were no cases of typhoid, no dysentery, no diphtheria. In another similar home for mentally defectives with 400 inmates there were in five years only 5 cases of measles, 14 cases of scarlet fever, 14 cases of diphtheria, and an outbreak of influenza in 1931 yielding 167 cases of influenza—but no other infectious diseases.

In another institution housing 220 normal children between the ages of 3 and 14 years, but all drawn from the poorest classes of the city's slums, there has been during the past five years only one outbreak of infectious diseases in which 60 children were affected with whooping-cough. Apart from this there has been one case of scarlet fever, and a few cases of measles and mumps, but no other infectious diseases.

In another institution, a resident school for 120 deaf-and-dumb children between the ages of 5 and 16 years, 30 of whom have chronic ear discharges, there is more sickness amongst the staff of 20 than amongst the children, due mainly to the high incidence of septic tonsillitis. The only notably infectious diseases amongst the children have been two outbreaks of pneumonia affecting 12 children on one occasion and 15 on another, and a high constant incidence of septic skin infections.

These examples reveal how peculiar are the problems to each type of institution. This makes the comparison of the incidence of various diseases in such places as I have mentioned with the incidence in hospitals difficult and unreliable. For this reason I will attempt to summarise my observations on ward and dormitory infections by separating hospitals from other institutions. And further, since the problem of infections amongst infants is so different from that amongst older children and adults, I will for the moment leave it aside.

In five institutions of various types, not being hospitals, with a total inmate population of about 1650 people all above the age of 3 years, the following have been the chief occurrences of ward and dormitory infections (excluding the exanthemata, diphtheria, mumps, whooping-cough, chicken-pox) during the period of the past five years:

In one institution there were two outbreaks of bacillary dysentery with 38 cases on one occasion and 9 on another. There were no deaths. In the other institutions there were no cases of dysentery.

In one institution—a deaf-and-dumb school—there were two outbreaks of lobar pneumonia, affecting 12 children on one occasion and 15 on another. In no other institutions were there similar outbreaks.

Epidemics of influenza occurred in four of the institutions in the year 1931, affecting 460 of the inmates.

Chronic skin sepsis is constant and frequent in the home for deaf-and-dumb children where the incidence of ear discharge is high.

Septic tonsillitis is frequent (exact number not available) in three of these institutions, but very rare in the others in which the inmates are free to move about out of doors.

On the negative side there have been no cases of typhoid, paratyphoid, poliomyelitis, encephalitis, meningococcal meningitis, mastoiditis, or catarrhal jaundice in these institutions.

HOSPITAL WARD INFECTIONS

Satisfactory estimates of the incidence of infections gathered in hospital wards are difficult to reach. Many of the cases which are discovered there have been infected before admission, but came to hospital "for observation," "for investigation," or with a wrong diagnosis. The true nature of the disease is mistaken on admission, and the cases find their way to the wards—paratyphoid as appendicitis, typhoid as pneumonia, and dysentery as food poisoning. A further difficulty is that patients who stay in hospitals for short periods may there be infected and yet not develop signs of disease until after discharge. I do not intend to avoid the unpleasant truth that infections do arise and are transmitted within the wards, but to describe this I shall rely on the narration of clinical experiences, dealing first with those concerning adults and older children, and later with those concerning infants.

Let us first dispose of those septic infections, truly known as "hospital gangrene" and "hospital fever," which were such a menace to life and limb of all who were admitted to surgical wards before the days of Lister, Simpson, Lawson Tait, and the Commissioners of THE LANCET who inquired into the state of infirmaries at that time. These days are gone and almost forgotten. Operations are now considered to be safe from these dangers. As a physician I do not see sufficient of the routine work of surgical wards to state categorically that this is an absolute safety, and I may be permitted to ask if traces of the danger still linger. I can well imagine that, given overcrowding in surgical wards of a busy hospital in an industrial city with its numerous accident cases, "hospital fever" might raise its head again, in spite of the ritual of the dressing bogy and finger dipping of the surgical dressers.

A few years ago I was asked to see a young woman of 18 lying in a surgical ward of an outlying hospital. For 18 days after a clean operation for "interval appendicitis" she was afebrile and well. She then began to run a temperature rising to 101° F., with rapid pulse, no adequate physical signs of local disease being found to account for it. Her appearance suggested the febrile illness so frequently seen with a streptococcal infection. Next to her was an "extra bed" interplaced in very close proximity on account of the crowded condition of the ward. In it lay a woman with a septic mastitis requiring frequent dressing. I felt justified in diagnosing a ward-contact infection, serological and clinical examination having failed to demonstrate any other causes. The febrile illness lasted six days and ended in recovery.

This is not an isolated case. I have seen others like it. I would suggest that whenever an unexplained attack of "P.U.O." or "influenza" arises in a surgical ward and affects a child or young adult, the possibility of streptococcal infection should be considered. In some cases an actual tonsillitis accompanies it, typical of the "hospital sore-throat" common to young nurses and students, but in other cases the localisation of the infection is not apparent, and the younger the child the more likely is this to be so.

While we admit that septic infections in the general wards of hospitals are now rare, after inquiry it appears to me that some danger still exists in the chance of the enteric group of fevers and bacillary dysentery being introduced amongst bedridden patients. I have approached this problem with the help of Dr. J. A. Charles, our medical officer of health, who has devoted considerable time to its study. He

is in a position to estimate the frequency of hospital outbreaks of these diseases by having within his curtilage the large general hospitals of the city, and numerous smaller hospitals in the city and surrounding district. His records show that during the past five years there have been two hospital outbreaks of paratyphoid fever, and 12 small outbreaks of bacillary dysentery, in addition to those two I have already mentioned as occurring in an institution which was not a hospital. One paratyphoid outbreak affected 12 cases in two surgical wards for females, and from it there were four deaths. No actual source of infection was ever traced, but it is probable that it was introduced into each ward from outside and spread from case to case by the ordinary methods of direct and indirect contact. The outbreak was brought to an end after closing the wards for admission. The other hospital outbreak of paratyphoid infection affected 17 children and nurses, with three deaths.

The outbreaks of bacillary dysentery in hospitals have been more numerous but less dangerous. In 12 separate outbreaks in various hospitals over a period of four years, 75 cases were affected with four deaths. Bacillary dysentery remains a relatively common disease in this country, especially among children. In many cases it shows itself as a short illness with intestinal symptoms lasting two or three days and prompt recovery. If these figures suggest an unduly high incidence, I think the explanation is that the diagnosis rate was high and can be attributed to the zeal with which Dr. Charles and his staff survey and control the problem.

There is but one other type of ward infection which I would mention. That is contact infection of children or adolescents with tuberculosis. Though rare, this remains as a distinct possibility. Runge's account of the tuberculous midwife reveals the danger. She made it a habit of trying to resuscitate children with asphyxia by aspirating the mucus with her own mouth. In the course of 13 months ten of these children died of tuberculous meningitis; whereas in the practice of other midwives in the same place, not a single child contracted the disease. Last year in a continental sanatorium I was shown three girls each with evidence of a serious form of the childhood type of lung tuberculosis. This had been acquired in a surgical ward of a city hospital, where the girls congregated daily round the bed of a patient with tuberculous hip disease who had a cough and was later found to be expectorating tuberculous sputum.

These occasional experiences suggest, I think, that while the bad old days of hospital infections are past, there still linger slight dangers which, however, can be largely avoided by alert clinical control of admissions and by proper disposal and arrangement of the patients in the wards.

INFECTIONS IN INFANTS' WARDS

We may view with pride or complacency all that has been achieved to prevent and control the spread of infection amongst older children and adults, but there is still reason for concern at the risks and dangers which threaten young infants who are taken into hospital wards. At all times these risks and dangers have been greater for infants than for any other group of hospital patients. There is on record an account of an infants' "home" where at the beginning of the last century destitute babies were admitted for "care and feeding," and of these 90 per cent. died within the year of their admission. Later in the century Henoch revealed his feelings when, in writing of ward infections, he said: "Deficient and unsuitable feeding is not the only thing to be blamed in these cases . . . and finally the last stage develops which precludes all hope and leaves to the physician when he sees a number of such children together (as for example in my ward) only sadness and resignation." Quite recently a famous pædiatrician has written [1]:

"the herding of infants in separate wards where the individualisation and mothering of the home are wanting, where exposure to infections of the respiratory tract leads to more institutional casualities than one can contemplate with serenity of mind and of heart is fraught with such danger that one often wonders if it were not better to abolish them altogether."

While admitting that such dangers do exist, I do not think for a moment we need advocate the closing of infant wards. Hospital treatment can be rendered as safe for the infant as for older patients. I know of one institution in which are housed 15 illegitimate children below the age of six months, and during the past five years there have been no serious ward infections and no deaths from infection. More than 300 infants have passed through it with a lower morbidity- and mortality-rate than obtained amongst infants in the general community. There are many hospitals into which infants can be taken with equal safety.

An appeal to hospital statistics will not provide a complete answer to a request for actual figures to support my argument. It often happens that when a mother learns that there is nothing more to be done for her infant, or when she recognises that her infant is extremely ill, she takes the child home. Another fallacy in hospital statistics arises because an infant may be in hospital for a few days receiving some simple surgical treatment and not show signs of ward infections until its return home. On the other hand, a children's hospital is often the repository of infants who have reached the last stage of some infectious illness incurred at home. The most satisfactory method of determining the effects of so-called hospitalism on infants would be to gather complete statistics of the illnesses and the death-rates of a large number of infants following or subsequent to their admission to the wards of hospitals in a state of good general health for the treatment of some simple structural fault such as hernia.

We can get some idea of what Simpson called the "morbific influences" of a hospital on infants if we examine the results of treatment of hypertrophic pyloric stenosis. In a recent correspondence [2] on the subject it was pointed out that the mortality of these infants treated in hospital was 25 per cent., "while in infants of the same age and weight, operated on privately by the same surgeons, the mortality was less than 1 per cent." It will be conceded that hospital patients are usually admitted in a more advanced stage of the disease than private patients, but that will account only for a small part of the disproportion between these results, and the main part must be laid at the door of infections which have been acquired either before or after admission to hospital. I knew surgeons of ripe experience who, in the days before adequate arrangements for hospital treatment existed for infants, preferred to send home those on whom they had operated for hernia and pyloric stenosis on the day of operation rather than admit them to hospital.

One of the reasons that the dire effects of infections in infants has received so little attention is that the signs and results of infection are often misunderstood. If a perfectly healthy infant is subjected to infection from a streptococcal tonsillitis in an adult the results

[1] Brenneman, J.: Amer. Jour. Dis. Child., 1930, xl., 1.
[2] Paterson, D.: THE LANCET, 1933, i., 719.

are these: The child begins to refuse its feeds, is restless, has dyspeptic vomiting and diarrhœa. The temperature is variable and fever may be absent in some cases. The weight falls and for a period of 5 to 15 days the dyspeptic and bowel symptoms continue until recovery sets in. The illness may pass without any signs of localised inflammation in the fauces. If an undernourished infant is similarly infected there may be no rise in temperature, the digestive symptoms continue longer, and the child may pass into a condition diagnosed "marasmus." If further observation is continued, evidences of the latent but recurrent infection appear with intermittent bouts of pyuria and a tendency to attacks of otitis media, skin sepsis, or broncho-pneumonia. Too often, in my opinion, the mistake is made of looking on the primary fault in these infants as being due to "feeding disorder," and some mysterious inability to digest fat or carbohydrate or protein is invoked as a primary cause. It may be true that they cannot digest cream, but it is equally true that an adult with influenza dislikes beefsteaks. I would suggest that we gain a better understanding of the problem if we recognise how little of disease in infancy is due to "feeding disorders" and how much to infection.

The commonest ward infections in infants are those due to septic organisms which produce a variety of results, and to dysenteric organisms which produce an infectious ileo-colitis. The younger and the smaller the infant the more serious and the more prolonged are the results. Many infections which are comparatively innocuous in children past the age of 12 months may be quickly fatal in young infants, especially if they be thin and underweight.

CONTROL OF INFECTIONS IN HOSPITAL WARDS

My observations lead me to the opinion that whereas isolated cases of infectious diseases will inevitably arise or be admitted to hospitals, the spread of these infections can be prevented or strictly limited by observing two principles: (1) the training of a competent staff capable of recognising the suspicious cases; (2) the building of hospitals and arranging of wards in such a manner as to prevent overcrowding. Personally I look forward to the day when these arrangements will provide in every hospital a single room for each patient if he wishes for it, if the nature of his illness demands it. If there must be wards, I think that the best and most effective planning is that which allows beds along one side only, the other being free with access to a balcony, in the manner of construction used at the Birmingham Children's Hospital.

The necessity for the observance of these two principles is of greater importance in hospitals dealing with sick infants than in any other type of institution. The susceptibility of infants is so great, the spread of infection in their wards so rapid, and the results so serious that it were better if each infant were placed in a separate ward. My own practice in the hospital treatment of babies is guided by five rules:

(1) Not to admit a baby into hospital unless (*a*) some form of technical treatment is to be given which cannot be provided at its home or as an out-patient, or (*b*) the home conditions in which the baby lives are injurious to it.

(2) If a baby is to be admitted to hospital for the treatment of a disorder of a non-infectious nature such as prematurity, pyloric stenosis, or congenital abnormality, it must be isolated in a room where it can be safeguarded from infection.

(3) Where infants or young children are put into wards they should be arranged: (*a*) according to the age-groups to which they belong, the infants under six months being warded together, those from 6 to 12 months together, and those over 12 months together; and (*b*) the wards must be small and with ample air space.

(4) To provide for the infants an amount of nursing and supervision which is not less than that which would be provided if they were left with parents or guardians at home, and in order to achieve this to admit the mother with her infant if necessary.

(5) To train the resident and nursing staff to the view that in all hospitals dealing with acute diseases there are "morbific influences" which are highly dangerous to young infants, especially if they be underweight, and that it is their duty to safeguard their patients from these dangers.

Finally, I prefer to allow parents to visit their young infants when in hospital. This is done to correct the belief, which I regard as erroneous, that ward infections in children's hospitals are brought in by the children's parents.

THE USE OF X RAYS IN THE INVESTIGATION OF VARICOSE VEINS

By David H. Patey, M.S. Lond., F.R.C.S. Eng.
ASSISTANT SURGEON TO THE MIDDLESEX HOSPITAL

R. C. Tatham, F.R.C.S. Eng.
SURGICAL REGISTRAR; AND

F. G. Nicholas, M.B. Lond., D.M.R.E.
ASSISTANT RADIOLOGIST TO THE HOSPITAL

(WITH ILLUSTRATIVE PLATE)

X RAYS have been used extensively, both clinically and in the post-mortem room, in the investigation of varicose veins. Clinically, the earlier solutions employed to render the vein opaque to X rays, such as the inorganic iodide salts, were unsatisfactory because of their toxicity and local irritative effects. Lipiodol overcame some of these difficulties (Sicard and Forestier [1]), but as a fluid for injecting into veins has the disadvantages, first, that, being heavy and oily, its physical condition is so different from that of blood that it tends to break up into droplets, and, secondly, that it can only be injected in relatively small dosage. More recently Barber and Orley [2] have described and illustrated the use of the Uroselectan group of compounds for the same purpose. These compounds are almost ideal for injecting into veins to render them opaque to X rays, since they form watery solutions which mix readily with the blood, and which may be injected in quantities sufficient to fill even a large varicose venous system without causing general disturbance. A series of patients from the varicose vein clinic of the Middlesex Hospital was therefore investigated by this means and an attempt was made to assess its value, both in the study of varicose veins in general and in individual cases.

Twenty-three patients in all were investigated, the cases selected being chiefly those in which the internal saphenous system was principally involved. In most of them the varicose veins were extensive and large in size, but a few early cases also were included. Uroselectan B was used, the standard amount injected on one side being 20 c.cm. It was found that a dilution of the strength of the uroselectan, as supplied in the ampoule, to half its strength gave perfectly satisfactory X ray pictures, and in this way the expense of the investigation was diminished. Moreover, in cases in which it was desired to investigate

the varicose veins on both sides, the other half of the ampoule could be used for the opposite leg without exceeding the advised dose. When the patients were radiographed in the standing position, the solution was injected into the main internal saphenous in the thigh. When they were lying down it was injected into a vein near the ankle. In four cases both types of investigation were done on the same patient. The first X ray picture was always taken immediately after the last of the fluid had been injected. In addition, in several of the cases the effect of a standard amount of exercise of the limb was determined by radiography.

The interpretation of the radiogram requires a little care owing to the fact that both the deep veins and the superficial veins on all aspects of the leg show up on the film on the same plane. Barber and Orley noted this difficulty and suggested the use of stereoscopic X ray pictures to overcome it. We have used this method, and also have tried indicating the position of the saphenous trunk by a piece of wire strapped to the limb. Stereoscopic radiography, however, adds to the complication of the investigation, and with a single film it is usually possible to differentiate the main deep veins from the superficial veins by their calibre and position, and by carefully comparing the X ray picture with the clinical condition.

THE INFORMATION GAINED

The test provides, in the first place, a striking graphic representation of the varicose condition present. As would be expected, an injection when the patient is standing is much better for demonstrating the full extent of the condition; an injection in the lying position usually fills only a few of the main varicose veins and not the subsidiary channels. This is well shown in Figs. I. and IV. (on Plate) which are radiograms of the same case, the first after injection in the standing and the second in the lying position. As a rule, the extent of the varicose veins, as demonstrated by X rays when the injection is made in the standing position, corresponds closely to the condition seen on ordinary clinical examination. But occasionally the radiography may reveal a greater degree of breakdown of the venous valvular mechanism than would be suspected from the clinical examination alone.

The most striking case illustrating this was that of a girl, aged 22, who came to the hospital because of some prominent veins which she had recently noticed. On examination a dilated, incompetent but non-tortuous internal saphenous vein could be seen on either side in the lower part of the thigh and the upper part of the leg, but no other varicose veins. The X ray examination, however, revealed the much more extensive condition illustrated in Fig. III.

On the other hand, in a few cases the radiography did not demonstrate the full extent of the varicose veins as seen clinically. These were advanced cases with large tortuous veins in which the opaque solution after injection in the standing position tended to collect in the lower part of the varicose pouches, which thus acted to some extent as crude valvular mechanisms (Fig. V.).

Secondly, X rays may be useful in investigating the relation of apparently scattered collections of varicose veins to each other and to the main superficial venous channels.

A case of this sort was that of a boy who came for treatment on account of numerous collections of dilated venules covering the greater part of both legs, the condition being associated with marked œdema and disability. An injection into a superficial varicose vein at the knee in the standing position demonstrated that there was a complete breakdown of the valvular mechanism of the superficial veins of the lower limbs, the strain for some reason having been felt most by the superficial venules.

Information of this sort may be of value in treatment in indicating the chief feeding veins which require to be attacked.

ROUTE AND SPEED OF EMPTYING

Again, X ray investigation may enable one to determine the route by which the varicose veins empty, and the time which they take to empty under different conditions. In the lying position, the main route of emptying was by communicating veins to the deeper vessels, and thence to the popliteal and femoral veins rather than by the internal saphenous vein in the thigh. This was so even in cases in which a well-marked varicose internal saphenous vein was present in the thigh. Thus, of eight cases in which the injection was made in the lying position and in which the route of emptying could be determined, in seven the popliteal and femoral veins were clearly visible on the X ray films filled with opaque solution, while no trace of an internal saphenous vein in the thigh was present; and in the remaining case, emptying could be seen to be taking place by both superficial and deep routes. When the injection was made in the standing position into one of the upper varicose veins the opaque solution first flowed downwards to fill the varicose system, and then passed by communicating veins to the deep venous system from which it was carried away by the popliteal and femoral veins.

The time taken for the opaque solution to disappear from the varicose veins varied considerably, as would be expected, and depended on such factors as the severity of the condition, the position of the patient, and whether muscular contractions were allowed to take place or not. In this series no attempt was made to determine accurately how the emptying time varied under these different conditions. But in 17 cases further X ray pictures were taken at varying times after the limb had been exercised. When the radiogram was taken in the standing position the exercise consisted in standing on the toes six times, and when in the lying position in moving the foot up and down six times. In the majority of cases, after these exercises, a considerable part of the opaque solution had disappeared from the superficial veins, though vague shadows could usually still be seen. Sometimes, however, there was considerable delay in emptying. In one case, for example, the varicose veins were clearly visible three minutes after the first picture had been taken, although the patient had in the meantime raised himself on his toes nine times. In another case the injection was given in the lying position, and the patient then stood up. Three minutes later another picture was taken which showed the veins almost as clearly visible as in the first picture. The X ray study thus provides confirmation of the tendency to stagnation in varicose veins, a condition which probably accounts for the special liability of varicose veins to both spontaneous and therapeutic thrombosis. In this connexion it is interesting to note that the injection of uroselectan was in several cases followed by the development of thrombosis, a sequel that is rare after the injection of uroselectan into the more swiftly moving current of the arm veins.

In a few cases, as a result of the exercises, the opaque solution passed not only into the deeper veins but also in the reverse direction to fill up small superficial venules not previously visible, e.g., Figs. I. and II. In other words, owing to the

inefficient valving both of the superficial and of the perforating veins, the effect of exercise may be not only to aspirate blood from the varicose veins, but also to force blood into them and thus exaggerate the severity of the condition. Warwick [3] has drawn attention to the importance of this mechanism in the development of varicose veins.

ÆTIOLOGY, PROGNOSIS, AND TREATMENT

One may summarise, therefore, the results obtained by X raying varicose veins by saying that a picture is provided of the distribution and connexions of the veins, and also information on the routes by which they empty, the time that they take to empty, and the effect of exercise. It is next necessary to consider whether the information that may be obtained in this way is of any value in throwing light on the problems of varicose veins in general, or in the treatment of a particular case.

Considering first the *ætiology* of varicose veins, the theories fall into two main groups—those which hold the primary factor to be a deficiency in the valvular mechanism of the veins, and those which hold it to be a congenital or acquired weakness of the vein wall. The subject is fully discussed by Warwick, who supports the theory of a primary valvular deficiency particularly affecting the communicating veins between the superficial and deep circulations. Arguments in favour of the alternative theory will be found in Delater's recent work.[4] In the present investigation, the cases being for the most part advanced ones, both the weakness of the walls and the deficiency of the valves were only too obvious not only on X ray examination but also clinically. In some cases, too, the incompetence of the perforating veins between the superficial and deep circulations was, as already noted, clearly demonstrated by the effect of exercise. But there was no means of telling which was the primary factor, the weakness of the walls or the weakness of the valves. An investigation, however, of very early cases of varicose veins might provide definite information on this point. In this connexion the case illustrated in Fig. III. is of interest since the apparently early condition clinically, combined with the advanced degree of venous incompetence found on X ray examination, suggests a primary valvular deficiency.

Again, *prognosis* in varicose veins is difficult since it is well known that the rate of progress of varicose veins varies greatly in different people; in some cases the condition gets rapidly worse until the greater part of the limb is involved, while in others it remains stationary for long periods without any treatment at all. X ray examination may be able to provide some information which will help, particularly in showing whether the incompetence of the perforating veins is such that exercise tends to exaggerate the condition.

As regards *treatment*, the investigation provides some evidence to explain why injection treatment causes thrombosis selectively in the superficial veins. That the failure of the deep veins to thrombose is not due to the failure of the sclerosing solutions to reach them is shown by the readiness with which the deep veins filled with the opaque solution. In fact, though in the standing position the deep veins usually showed up only as faint shadows, in some of the cases injected in the lying position the opacity of popliteal and femoral veins was as dense as that of the superficial veins—e.g., Fig. IV.—so that presumably during the injection treatment of varicose veins the sclerosing solutions must not infrequently reach the deep veins in strong concentration. The principal factor in protecting the deep veins must therefore be the rapid flow of the blood through them as compared with the relatively stagnant circulation in the superficial varicose veins. Moreover, the common experience that tortuous varicose veins can be obliterated more easily than straight veins can be correlated with the fact demonstrated on X ray examination that the solution tends particularly to stagnate in varicose pouches. The investigation thus emphasises again the importance of stasis in the development of venous thrombosis.

Finally, the ease with which the whole varicose system can be filled from above in the standing position, using the heavy uroselectan solution (specific gravity 1·504), suggests that in this position with a suitable heavy sclerosing solution it might be possible to obliterate the greater part of a varicose system at one injection. We are inquiring further into this point.

CONCLUSION

It may be concluded that in radiography of varicose veins after the injection of uroselectan we have a test that is simple and safe and has a limited value in the investigation of certain cases coming for treatment. It does not appear to provide sufficiently valuable additional information to justify its being employed as a routine, but as a means of investigating some of the problems of ætiology and treatment an extension of its use seems desirable.

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THE FORMATION AND TREATMENT OF CAVITIES IN THE LUNG

BY ANDREW MORLAND, M.D., M.R.C.P. Lond.
RESIDENT PHYSICIAN, MUNDESLEY SANATORIUM, NORFOLK

(WITH ILLUSTRATIVE PLATE)

UNTIL recent years the pathology of cavity-formation was considered a simple and straightforward process; infiltration was followed by necrosis, caseous matter was coughed up and a cavity remained. If the patient survived, the wall of the cavity became increasingly thick as succeeding layers of fibrous tissue were laid down, and it was known that in rare cases this process might ultimately lead to obliteration of the cavity.

When radiology became extensively used it was often possible to follow these stages, previously known to the pathologist, by means of serial X ray films. In Case 1, for example (Figs. I. and II. on Plate), the earliest stage of cavity-formation is shown by the appearance of less opaque areas in the substance of a dense infiltration. The margins, at first ragged and "moth-eaten," become smoother and more dense as the limits of the infiltrated area are approached by the growing cavity. In its established form such a cavity appears as a translucent area in which the normal lung markings are no longer visible: it is surrounded by a fibrous capsule and in shape is usually round or oval.

THE ANNULAR SHADOW

In addition to these cavities clearly resulting from the destruction of lung tissue a totally different

formation soon attracted attention; this was the annular shadow. In its typical form this appears as a sharply defined, thin-walled ring; any part of the lung may be involved, but the subclavicular region is most commonly affected. If previous radiograms are available it will usually be found that it has appeared on the site of a much smaller infiltration. An annular shadow may reach a diameter of two inches or more within a few weeks, and it may disappear in an equally short time; reappearance, sometimes after a lapse of several months, is not exceptional.

The appearance and behaviour of annular shadows is so different from that which was expected of cavities that for a long time radiologists and physicians were unwilling to accept them as true cavities. Among the theories that have been put forward to account for these rapidly changing ring shadows the following have received the most serious consideration:—

1. The "pleural ring" theory has proved untenable, as post-mortem findings have shown that all or practically all annular shadows represent cavities.[1] Moreover a localised pneumothorax rarely gives rise to a ring shadow, and oblique X ray examination indicates that these shadows are intrapulmonary.

2. The "flat cavity" theory.—H. Alexander's suggestion [2] that rapid healing might be due to these cavities having a short antero-posterior diameter is not borne out by oblique and lateral radiograms, which show them to be spherical.

3. Bronkhorst's theory [3] assumes that the size of a cavity is not due to tissue destruction alone but also to alterations in the elastic tension in the surrounding tissues. As the inflammatory process diminishes the normal elasticity of the lung tissue is regained and the cavity becomes smaller. This theory is an ingenious one, but fails to account for an annular shadow in a lung compressed by pneumothorax as described by Sowerbutts.[4]

4. The cellular infiltration theory [5] regards annular shadows as a zone of demarcation, separating the inflamed but not yet necrotic tuberculous focus from the healthy lung. This theory offers a simple explanation for the sudden appearance, disappearance, and reappearance of annular shadows. A radiogram from Case 2 (Fig. III.) shows a small ring within a much larger one. The following film (Fig. IV.) shows a single ring intermediate in size, and these changes suggest that the inner ring may represent a cavity and the outer a zone of demarcation. This theory is also open to the objection that at autopsy cavities are almost always found to correspond with annular shadows.

5. The inflation theory.—There remains the theory that annular shadows are caused by air under pressure following partial obstruction of a smaller bronchial tube. The mechanism assumed by this explanation is similar to that involved in valvular pneumothorax and in the formation of emphysematous bullæ. Arnell [6] has described cases of asthma with annular shadows of emphysematous origin. More recently Doub [7] has reported on five non-tuberculous cases with large annular shadows which proved at autopsy to be emphysematous bullæ. In three of these cases the condition was caused by bronchial stenosis due to neoplasm, an observation which supports the view that similar conditions play a part in the formation of tuberculous cavities. Annular shadows due to bullæ are still more thin-walled than those of tuberculous origin; it is therefore probable that in the latter condition caseation is present in the wall of the cavity at an early date.

Hübschmann [8] has shown that widespread emphysema may result from an acute tuberculous infection; he records a case of miliary caseous pneumonia, in which the lung on section looked like a sponge on account of numerous small bullæ. Vere Pearson [9] added a further link in the chain of evidence when he found a positive pressure on the introduction of a pneumothorax needle into a large thick-walled cavity; after removal of air this was reduced to atmospheric, but became positive again when the patient breathed deeply, thus proving the presence of a valvular opening. Although this case behaved like one of valvular pneumothorax this condition was not present, the growth of the cavity having been followed radiologically during a number of years.

Gloyne [10] has recently shown, by microscopical sections of the walls of minute early cavities, that surrounding alveoli are compressed as they would be if the cavity contained air under pressure.

The absence of auscultatory signs of cavitation, which has been used as evidence against annular shadows being true cavities, gives further support to the view that a valvular mechanism is at work.

From the above it appears that some tuberculous cavities contain air under pressure; that this is a common occurrence is suggested by the spherical shape of the great majority of these early thin-walled cavities. Both the formation of emphysematous bullæ and of valvular pneumothorax provide analogies which show the facility with which air accumulates in the chest, as a partial obstruction interferes much more with expiration than with inspiration. The lumen of a bronchus in any case becomes smaller during expiration, and the presence of tenacious sputum will tend to produce a valve.

The film shown on Fig. V. (Case 3) suggests another possibility of valvular action. Although this patient had a large cavity with fluid level, no abnormal physical signs could be detected and there was no cough or sputum until an expectorant mixture was given; this resulted in the production of a small amount of positive sputum. After phrenic evulsion and many months of rest in bed the cavity disappeared leaving quite a small scar (Fig. VI.). In this case, which is by no means unique, it is difficult to explain the fluid level in the cavity together with the absence of sputum if the outlet had been patent. The small scar left on healing increases the probability that this cavity was not due entirely to destruction of tissue and that inflation was also present. This and similar cases suggest that secretion in a cavity may act as a valve if the draining bronchus enters below the level of the fluid. Air could easily enter the cavity by bubbling through the fluid, but it would be difficult for tenacious sputum to escape through a narrow opening.

A fourth patient arrived at the sanatorium with an annular shadow at the left apex, fever, and positive sputum (Fig. VII.). Pneumothorax failed, but after several months of rest, combined with gold treatment, the cavity disappeared leaving a small scar (Fig. VIII.); the temperature was normal and the sputum ceased. The patient returned home but relapsed six months later; fever and sputum returned, and the annular shadow reappeared (Fig. IX.).

The clinical course of this case cannot easily be explained by the old theory in which cavity-formation was looked on as being due to destruction of lung tissue alone. Probably inflation together with a more circumscribed destructive lesion are involved.

MR. PATEY, MR. TATHAM, AND DR. NICHOLAS: RADIOGRAPHY OF VARICOSE VEINS

FIG. I.—Injection into the internal saphenous vein in the thigh. Patient in the standing position.

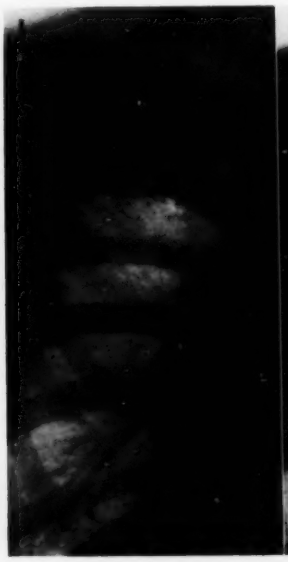
FIG. II.—Same case, after exercise of limb. Solution still present in larger veins. Smaller veins now visible.

FIG. III.—Early clinical case. Marked valvular incompetence.

FIG. IV.—Same case as Figs. I. and II. Injection at the ankle in the lying position. Superficial varicose system incompletely filled. Popliteal and femoral veins clearly shown.

FIG. V.—Advanced case, injected standing. Stagnation and varicose pouches.

DR. ANDREW MORLAND: CAVITIES IN THE LUNG



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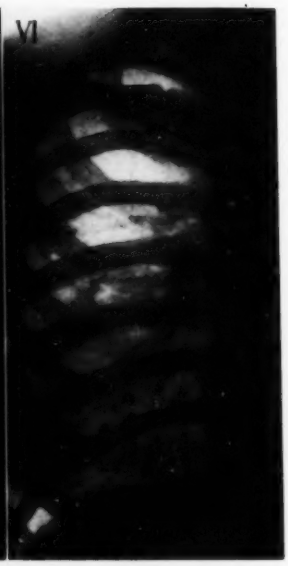

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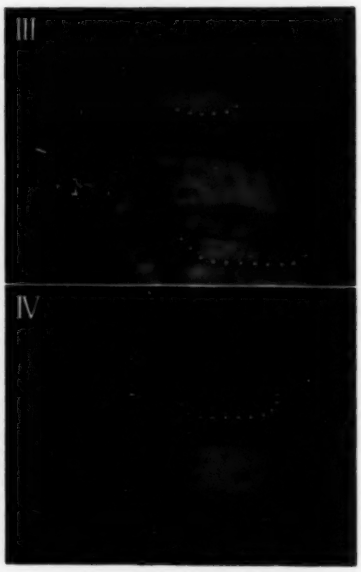

III.—3.xii.25 IV.—3.viii.26

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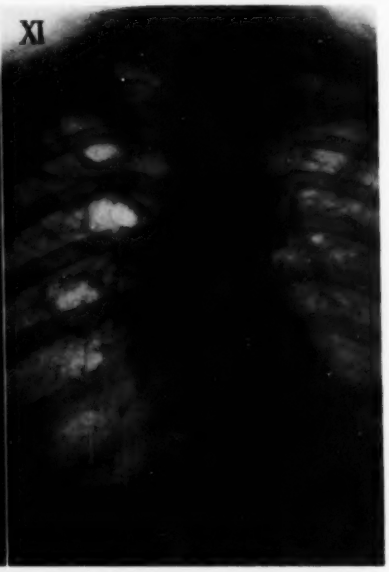

22.ix.33

27.x.31

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THE NOMENCLATURE OF CAVITIES

It appears from the above that two factors are concerned in cavity-formation—destruction and inflation. Whereas purely destructive cavities are common, especially in the substance of large pneumonic patches of disease, it is doubtful if inflation alone is ever the cause of the annular shadows seen in phthisis. Certainly the earliest cavities examined microscopically show evidence of caseation, and in radiological appearance thin-walled cavities have a more definite outline than the non-tuberculous bullæ resulting from bronchial stenosis. As destruction of lung tissue has for so long been the only factor recognised, cavities formed in this way are commonly called "ordinary" or "true" cavities. The radiological study of early cavity-formation shows that annular shapes unassociated with large patches of infiltration are at least as common as purely destructive lesions. "Destructive cavity" therefore appears to be a better name.

The thin-walled spherical cavities in which inflation seems to play an important part have been described as "air cysts," but this term is not a good one for a lesion which is probably in part destructive. Other names such as "silent cavities" and "X ray cavities" have been suggested, but I think the most appropriate term to be "round cavity." This name was made use of by Pinner,[11] although he looked on the thin wall with little exudative tissue in its surroundings as evidence of incipient defence and not of inflation.

Chronic cavities differ from the two types of early cavity in having thick fibrous walls, and "fibrotic cavity" seems to be the best name for them.

DESCRIPTIONS OF ILLUSTRATIONS ON SPECIAL PLATE

FIG. I.—Tuberculous infiltration at right apex.

FIG. II.—Later radiogram from same case, showing early stage of cavity-formation.

FIG. III.—Radiogram of left apex showing a small ring within a larger one (their lower margins are indicated by the dotted lines). The inner ring may represent a cavity and the outer a zone of demarcation.

FIG. IV.—Same case. There is now a single ring intermediate in size.

FIG. V.—Large cavity in the right lung.

FIG. VI.—Same case, after phrenic evulsion and prolonged rest. The cavity has disappeared, leaving a small scar.

FIG. VII.—Annular shadow at left apex.

FIG. VIII.—Same case. Cavity has disappeared under treatment, leaving only a small scar.

FIG. IX.—Same case. After six months at home the patient is again febrile and the annular shadow has reappeared.

FIG. X.—Typical annular shadow in right lung. Left lung more severely affected.

FIG. XI.—Same case. The disease in the left lung has been arrested, but the annular shadow has become a chronic cavity.

THE SYMPTOMS, SIGNS, AND TREATMENT OF CAVITIES

Destructive cavities.—The formation of this type of cavity indicates a condition of high allergy with poor defence; toxic symptoms are therefore prominent. The onset of excavation is usually accompanied by a sharp rise in temperature, which often settles almost but not quite to normal in a few days. Sputum commonly appears or increases about the same time. When a large mass of consolidated lung tissue is excavated stethoscopic signs of cavitation may appear within a few weeks, but in most cases there is little or no change in the physical signs, and the diagnosis is radiological.

The presence of a severe type of lesion and the fact that destructive cavities usually fail to heal constitute an indication for active treatment. In addition therefore to strict rest, which should be continued for several weeks after the temperature has become normal, these cases urgently demand collapse treatment, which should not be delayed if there is no contra-indication. If pneumothorax fails phrenic evulsion should be proceeded with, but thoracoplasty is best postponed for several months so that the lesion may become more fibrotic; in suitable cases gold treatment may hasten this process.

Round cavities.—Annular shadows are often found as isolated lesions in cases in which there is no obvious disturbance in health, but if the patient is under close observation at the time the cavity appears some increase in pulse-rate and temperature will be seen, and there is usually loss of weight and increase of sputum. Bronkhorst [3] has noted that variations in the size of a round cavity almost always correspond with tubercle bacilli and elastic fibres becoming more or less plentiful. The majority of round cavities disappear with conservative treatment, but as the radiograms of Case 5 show, an annular shadow may turn into a chronic cavity. In the first of these, Fig. X., a typical round cavity has appeared in the better lung of a patient treated by artificial pneumothorax. Two and three-quarter years later the disease in the worse lung is arrested, but the annular shadow is still present and there is evidence of fibrosis. Two more annular shadows have also appeared, and the patient is febrile and has several ounces of sputum containing tubercle bacilli.

Various opinions have been expressed as to the correct treatment of these lesions. In 1921 Barlow and Thompson [12] stated that a patient should not even be told he has phthisis on the evidence of an annular shadow. At the same time they admitted that 82 per cent. of patients with these "pleural rings" relapsed and required further treatment. In 1924 Dunham and Norton [13] expressed the opposite view that these lesions are evidence of a severe type of disease and demand immediate collapse of the affected lung. Burrell [14] holds an intermediate view and emphasises the importance of considering the degree of activity present and the amount of disease in the rest of the lung. He records an interesting case in which a lung containing an annular shadow was collapsed by artificial pneumothorax. The treatment had to be stopped after the second refill, but the cavity did not return.

In general, round cavities are associated with a less active and progressive form of the disease than destructive ones, but they are not often found in the more benign types of apical and productive disease, and their occurrence indicates that there is some degree of activity in the lesion.

As so many round cavities disappear spontaneously, expectant treatment is the most rational. Toxic symptoms, although not obvious, are rarely absent and the patient should be kept in bed for several weeks at least. After a month or six weeks a further X ray examination should be made. If the symptoms have disappeared and the cavity is smaller artificial pneumothorax is unlikely to be required. If symptoms are still present and the cavity is larger, artificial pneumothorax is indicated. In doubtful

cases a further period of rest and observation is best, but if there is no definite improvement after three or four months, collapse treatment should not be further delayed. A round cavity with little surrounding infiltration does not need to be collapsed for the customary three to four years; eighteen months to two years will probably be well on the safe side. When artificial pneumothorax fails phrenic evulsion is often advisable, and thoracoplasty may be needed in cases of persistent or recurrent round cavity in which there are toxic symptoms (e.g., Case 5).

Fibrotic cavities.—The symptoms found with this type of cavity are variable, occasionally there are none, the cavity being dry and the general health good. In other cases there is much sputum, fever, and progressive emaciation. It is in this type that classical signs of cavitation are to be found.

As Burrell[14] has pointed out, the treatment of fibrotic cavities should be guided by symptoms; it is meddlesome to attempt to collapse symptomless dry cavities. When much sputum, hæmoptysis, or toxic symptoms are present collapse treatment is indicated. Although fibrotic cavities are often adherent to the chest wall pneumothorax should be tried first as it sometimes succeeds in unpromising cases. When ineffective on account of adhesions which cannot be cauterised, phrenic evulsion followed by thoracoplasty should be carried out in suitable cases. Phrenic evulsion alone rarely gives good results in cavities with dense fibrotic walls, and in apical cavities the upward movement of the diaphragm by altering the shape of a thick-walled cavity may result, in rare cases, in hæmoptysis or increased activity.[15] If a cavity has given rise to fresh dissemination of disease by aspiration, therapeutic measures must deal with this condition first and the direct treatment of the cavity has to be postponed until the recent disease shows evidence of commencing fibrosis.

SUMMARY

1. The great majority of annular shadows represent intrapulmonary round cavities, which are characterised by their rapid appearance, their frequent disappearance, and their occasional reappearance. (2) In cavity-formation two factors are probably at work—destruction and inflation. In round cavities the inflation element predominates, but when these lesions first appear symptoms are usually present, and these tend to increase or decrease pari passu with the size of the cavity. (3) Round cavities may persist and change into the chronic fibrotic type. (4) The formation of destructive cavities means that a severe type of disease is present and collapse treatment should be applied if possible. (5) Round cavities demand expectant treatment. A period of rest should be followed by further X ray examination. A large proportion of round cavities disappear with rest but others persist, giving rise to symptoms, and are best treated by artificial pneumothorax.

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NUTRITIVE VALUE OF BOILED AND RAW MILK IN INFANT FEEDING

BY NOAH MORRIS, M.D., B.Sc., F.R.F.P.S. Glasg.

BIOCHEMIST TO THE ROYAL HOSPITAL FOR SICK CHILDREN, GLASGOW; UNIVERSITY LECTURER IN BIOCHEMISTRY IN RELATION TO DISEASES OF CHILDREN; AND

STANLEY GRAHAM, M.D. Toronto, F.R.F.P.S. Glasg.

VISITING PHYSICIAN TO THE HOSPITAL; UNIVERSITY LECTURER IN THE MEDICAL DISEASES OF CHILDHOOD

THE relative nutritive values of raw and sterilised milk have received much consideration of late years. In the literature which has recently been summarised by Stirling and Blackwood[1] and by Savage[2] it is clear that although definite statements are made about the absorption of the various food constituents, there are but few exact data regarding the influence of sterilisation on the nutritive value of milk for the infant. It therefore seems worth while to put the following results on record.

Two apparently healthy infants, aged 8 months and 7 months, were fed on an adequate measured amount of boiled cow's milk for 10 to 14 days, on the last seven of which the excreta were collected. Thereafter the same amounts of raw milk obtained from the same source were given for a fortnight, the excreta as before being collected on the last seven days. Aliquot samples of the milk were collected for analysis each day during the metabolism periods. The intake and output of nitrogen, fat, calcium, and phosphorus in each of the seven-day periods were then determined and the retention of each calculated.

—	Diet.*	Retention per kg. per day.				Gain in weight.
		Nitrogen.	CaO	P_2O_5	Fat.	
Case 1.		(g.)	(g.)	(g.)	(g.)	(g.)
Period 1.	(Boiled).	0·162	0·060	0·0575	3·8	150
Period 2.	(Unboiled).	0·071	0·041	0·0410	3·85	140
Case 2.						
Period 1.	(Boiled).	0·194	0·0003	−0·0098	3·75	100
Period 2.	(Unboiled).	0·125	−0·009	−0·090	3·70	250

* In all the experiments the diet consisted of 200 c.cm. milk, plus 4 g. cane sugar, five times daily.

The results recorded in the accompanying Table show lower retentions of nitrogen, calcium, and phosphorus during the raw milk period than during the period when boiled milk was given. It is of interest that while Case 1 was retaining a large amount of mineral during both periods the retention in Case 2 was practically nil. Nevertheless even in Case 2 the substitution of raw for boiled milk over a period of a fortnight did not improve the mineral retention as one might have expected, if it is true that raw milk possesses a superior nutritive value. In passing, one might remark that this metabolic picture is that presented by the early stages of rickets in infants. The retention of fat was almost the same in the two types of feeding.

We do not wish to infer too much from these results, since the scope of these experiments is too limited to allow one to affirm that sterilised milk is always superior to raw milk as far as retention of nitrogen and minerals is concerned. It is also to be remembered that the experiments recorded here were of short duration, and do not reflect the state of affairs which might exist on the continued administration of boiled or raw milk. Nevertheless they afford no evidence that the absorption of nitrogenous substances, fat, and minerals is diminished by the boiling of milk.

Stirling and Blackwood [1] come to the conclusion that there is no decisive evidence that pasteurisation destroys the vitamin content of milk to any appreciable extent, with the exception of the vitamin C. This is not a serious drawback, since it is almost universally admitted that raw milk does not provide a sufficient supply of vitamins, and that these must be obtained in other ways.

As far as these results go there is no evidence to support the idea that the boiling of milk interferes with its usefulness as a food for infants.

We desire to express our thanks to the Medical Research Council, by whom the expenses of this work were defrayed.

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Clinical and Laboratory Notes

EXCISION OF THE THORACIC ŒSOPHAGUS FOR CARCINOMA

WITH CONSTRUCTION OF AN EXTRA-THORACIC GULLET

BY GEORGE GREY TURNER, M.S. Durh., F.R.C.S. Eng.

PROFESSOR OF SURGERY, UNIVERSITY OF DURHAM; SENIOR SURGEON, ROYAL INFIRMARY, NEWCASTLE-UPON-TYNE

THE patient was a man 58 years of age, one of the best type of North country miners, who was always bright and cheerful, and anxious to coöperate in every way with those in charge of his case. He gave a history of difficulty in swallowing of only eight weeks' duration. His complaint was that solid food appeared to stick at the lower end of the breast bone, and that he could only manage to swallow foods of the consistency of porridge and well-masticated bread. After treatment from his own doctor he improved a little, but the disability was really progressive, for during the eight weeks he had lost no less than 3 st. in weight. There were no external physical signs whatever, but the X ray appearances were characteristic of a constricting neoplasm of the middle of the œsophagus (Fig. 1).

FIG. 2.—Patient enjoying a high tea some seven months after the excision of his œsophagus.

On April 5th of this year (1933) gastrostomy was carried out, and at the same time it was determined that there were no secondary deposits in the liver or in the glands along the lesser curvature of the stomach. The man commenced to pick up immediately. After careful consideration I determined to attempt to carry out the operation for the removal of the thoracic œsophagus by the pull-through method which I described in my Henry Jacob Bigelow lecture.[1]

FIG. 1.—Radiogram showing constricting neoplasm in middle of œsophagus.

On Friday, April 28th, under general anæsthesia, the abdomen was opened by a high median incision. The left lobe of the liver was separated from the diaphragm and the abdominal œsophagus exposed. About 10 c.cm. of a ½ per cent. solution of novocain was injected through the hiatus into the œsophageal tunnel in the hope of displacing the pleura out of harm's way. The peritoneum in the neighbourhood of the hiatus having been incised, the finger was inserted into the posterior mediastinum and enucleation of the œsophagus commenced. I found that I could carry my finger all round the growth, but I could not get above it. Having accomplished as much as possible by this route the venue was changed to the neck. The cervical œsophagus was exposed through a transverse incision dividing the sterno-mastoid. By working downwards with the finger in the cellular tissue I was able to reach the upper limit of the growth and to separate the œsophagus from its connexions down to that point. The gullet was then ligatured and divided low in the neck and the upper end was brought to the surface through an independent button-hole incision to the margins of which it was carefully fixed. The division of the œsophagus was made with the cautery and its cut end and the upper part of the tunnel were well smeared with Bipp. The ligatured end was allowed to retract into the mediastinum and the neck wound was carefully closed. A return was now made to the abdomen but on drawing on the œsophagus it was found to be still firmly attached. With the fingers working in the posterior mediastinum it was eventually completely loosened, the left vagus nerve being divided with the scissors low down while the right nerve was not seen though it may have been torn through. At this stage it was clear that a hole had been torn into the right pleura and that air was rushing very freely into the chest cavity. This was arrested by stitching the left lobe of the liver over the œsophageal hiatus like a lid. The œsophagus

[1] New England Journal of Medicine, 1931, cev., 657, 674.

was then ligatured at the cardia and cut away, the stump being carefully buried in the stomach by a series of purse-string sutures. The patient made a very good recovery from this operation and without any unusual disturbance. After four weeks he was ready to go home to complete convalescence.

On June 20th he returned to hospital and on the 28th I carried out the first stage of the operation for the construction of an antethoracic œsophagus. This was carried out by making a tube from the skin of the front of the chest for the middle portion after the plan devised by Rovsing of Copenhagen. The lower end was completed by the Tarvel method, using an isolated portion of jejunum for the purpose. The orifice of the upper end of the œsophagus at the root of the neck was connected with the skin tube by a further skin plastic operation. During convalescence the patient developed a fistula at the junction of the skin tube with the intestine, and this required two operations for its repair. On the 206th day after the excision of the œsophagus the patient ate a meal consisting of three slices of bread and butter with a poached egg, half a pint of tea, and two pears (Fig. 2). This he enjoyed thoroughly and in his own words "he was able to swallow it just as well as ordinary." The specimen (Fig. 3) is a beautiful example of a comparatively localised squamous-celled carcinoma, and though it has invaded the muscular wall, there is no evidence of extension beyond.

FIG. 3.—Showing comparatively localised growth in excised œsophagus.

Of course it is obviously far too soon to judge of the result from the point of view of the treatment of malignant disease, but this case at least shows that the operation which I have for so long had in mind can be carried to a successful issue and it does demonstrate the great value of the plastic construction of a new gullet outside the chest.

PROLAPSE OF THE ABDOMINAL CONTENTS THROUGH A STAB-WOUND

By I. E. Revelle, M.D. Queen's Univ., Ontario
of the United Church of Canada Mission Hospital, Luchow, Szechuen, China

The patient, a powerfully built Chinese soldier, aged 20, was seen first as an out-patient on Feb. 17th last, five days after he had been stabbed in the abdomen by bandits in the countryside near here. There was a large mass covered with omentum protruding from a horizontal wound about five inches long, and about an inch above the navel. It required most of one's two hands to enclose it, and perhaps weighed over a pound. It was very foul with superficial pus, and blackened in places.

Next day he entered hospital. During the first few days in hospital he spat up a good deal of bloody pus, and there had been absolute constipation since the accident; but otherwise his condition seemed good—pulse-rate 80, temperature slightly up, 37·6° F.—so that operation was delayed till the purulent condition of the mass might be cleaned up. An enema on the second day produced slight results and on the fourth day he had a small natural movement.

In the meantime the protruding mass, which was treated with bichloride, Mercurochrome, and eusol dressings, was receding and becoming firmer. It bled easily but was not very sensitive. Nine days after admission he was taken to the operating-room, but as pus began to well up from the top edge of the wound, apparently coming from a pocket under the skin to the right side of the wound, nothing was done beyond tearing off a tag of tissue with the fingers and sealing up the bleeding arteries with a hot soldering iron.

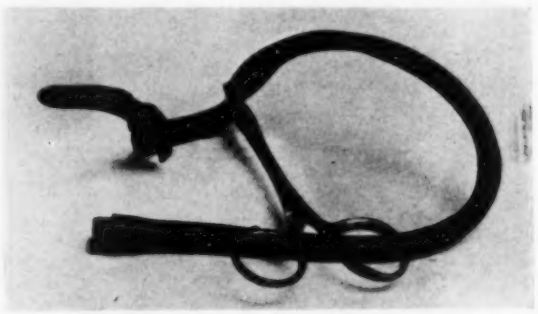
In bed again on the flat of his back, the pus pocket soon cleared up, while the mass continued to get smaller. The same dressings were continued, with occasional touches of half-strength acetic acid and the copper sulphate stick. New skin had begun to grow in from the edges, commencing first at the ends of the wound. After three weeks in hospital the mass was flush with the surface, and by the end of a month he was walking about the wards. After two months the wound had entirely healed over.

The patient has been seen several times since leaving hospital, with no complaints. The scar is four inches long and half an inch wide, purplish-brown in colour, and somewhat harder than the abdominal wall. There is no tenderness on pressure.

UNUSUAL OCCURRENCE IN A GASTROSTOMY

By A. R. Whitlow, M.B. Lond.
surgeon to the Malvern Hospital

An elderly man attended hospital on account of inability to remove his gastrostomy tube. He had had a permanent gastrostomy made some ten years previously and had been in the habit of changing the tube about once a week. Attempts at removal proving unsuccessful, the hole in the abdominal parietes was enlarged under local anæsthesia, and the tube, a No. 12 E red rubber catheter, in good condition, was found on extraction to have one complete knot tied in it. The knot was partially divided in the depths of the wound, and the cut edges have since been loosely approximated with a stitch for purpose of the photograph.



The gastrostomy tube showing the knot.

I can only conclude that the gastric peristaltic movements had "tied" the knot, which was then drawn tight by attempts to pull out the tube, since to introduce it knotted would have been quite impossible.

I am indebted to Dr. F. Campbell, who sent the case to hospital, for permission to publish this note.

MEDICAL SOCIETIES

MEDICAL SOCIETY OF LONDON

AT a meeting of this society held on Nov. 27th, Sir WILLIAM WILLCOX occupied the chair in the absence of the president, Sir JOHN THOMSON-WALKER, and a discussion on

Ward and Dormitory Infections

(excluding the common exanthemata) was opened by Dr. J. ALISON GLOVER. As he dealt with dormitory infection last year at the Royal Society of Medicine and recently at King's College Hospital,[1] he would, he said, on the present occasion speak only of ward infection. The diseases in which ward infection had been reported in recent years could be divided into two main categories: the contagion group and the droplet infection group. Some diseases (e.g., puerperal fever) obviously belonged to both groups and probably most of the droplet infection group could also be conveyed by direct contagion, as by means of table-ware. Examples of the first group were enteric fever, infantile diarrhœa, pemphigus neonatorum, breast abscess, and vulvo-vaginitis. The second contained pneumonia, influenza, and those diseases due to the hæmolytic streptococcus, such as puerperal fever, surgical scarlet fever, rheumatic fever, otitis media, streptococcal pneumonia, and on occasion even septicæmia. He knew of two instances in this country of ward infection of cerebro-spinal fever. Of the contagion group, enteric fever was a typical example, and, despite its low incidence in recent years, ward infection due to it had been seen not infrequently. In his annual report for 1931 Sir George Newman referred to four hospital outbreaks in the last few years due to it, involving 60 patients who were under treatment for some other condition, the outbreak having been started by the admission of an undetected case, or of a patient suffering from a surgical condition whose nature was not suspected. With the skill now demanded in public institutions such instances, Sir George said, ought not to occur.

The most usual causal factors in these ward infections of enteric fever were, in Dr. Glover's view, mainly delayed or mistaken diagnosis, defective nursing technique, insufficient or faulty equipment, and overcrowding, whilst a staff carrier might be an important factor. He described the four outbreaks and related at length one in which the infection started with the admission of a boy into a children's ward with broncho-pneumonia and an abdominal condition suggestive of tuberculous enteritis. Fifteen days later, however, his blood was found to be positive to paratyphoid B. Eight other children, a nurse, and a ward-maid in the same ward were infected and the ward-maid, who was engaged in washing dishes and other articles used by the patients, infected a child in the ward above. All the five main factors were present in this case. Mistaken diagnoses responsible for other outbreaks included appendicitis, cholecystitis, and diarrhœa. Dr. Vernon Shaw had shown that the incubation period of paratyphoid fever might be as short as nine days, the onset might be sudden, there might be sore-throat, and a scarlatinal eruption, though this was not positive to the Schultz-Charlton blanching test. The abdominal pain in this disease might be severe enough to lead to appendectomy. In one hospital a series of six cases were operated upon before the correct diagnosis of paratyphoid was made. An instance where two children from the same household were both operated upon for acute appendicitis and gave rise to a ward outbreak of four other cases was detailed. One disastrous outbreak last year was traceable to insufficient sanitary equipment. In this institution three wards in one block contained, together, 30 beds, and there was but one w.c., which had to serve ambulant patients and staff and for the washing of bed-pans. A small ward kitchen and sink, too, were common to all three wards. From one of the wards access to the w.c. was through this kitchen. Here eight patients and four nurses contracted typhoid fever, and one of the nurses died.

Ward infection in lying-in hospitals causing morbidity in the newly born, often accompanied by outbreaks of diarrhœa in adult patients and members of staff, was still seen. The nursing technique of a lying-in ward was peculiarly exacting, and as the pupils in training often far outnumbered the trained obstetric staff, its maintenance was obviously difficult. Here especially skilled planning and good design were needed for every detail of equipment for the toilet of mothers, the toilet and bathing of infants, and the disposal, laundry, and sterilisation of napkins, bed-pans. Also, isolation accommodation must be adequate, and promptly used should occasion arise. Dr. Glover showed on the screen the plan of one of three wards of a lying-in hospital in which such an epidemic had occurred; each bed, with cot, had only 84 sq. ft. of floor space: the minimum floor space laid down by the Local Government Board in 1913 and by the Ministry of Health in 1920 for lying-in wards was 96 sq. ft. per bed. A case of ward infection due to pemphigus neonatorum occurred recently in the maternity department of a general hospital, the ward containing five beds. The outbreak affected the infants of all five patients in rapid succession, eight days only elapsing between the onsets of the first and last cases. In another instance 25 cases occurred in a lying-in hospital of 70 beds in seven weeks. This epidemic followed a period of exceptional pressure on beds, the confinements in the two previous weeks having been 26 and 43 per cent. respectively above the normal. Moreover, the floor space was about 12 per cent. below the minimum required by the Ministry. The experience usually was that an outbreak of pemphigus or other septic infection in either infants or mothers in a maternity hospital was preceded by overcrowding, with the accompanying tendency to a relaxation of attention to essential details of technique. Dr. Glover said that no case of septic infection in mothers or infants, however slight, should be retained in a ward; isolation should be carried out, with special nursing and complete sterilisation of all possibly infected material. Further, a complete medical examination of the staff should be undertaken, to avoid the carrying of infection from a hitherto unrecognised focus—throat or finger. He spoke of a case in which patients with the following diseases were in one ward: antenatal cases, a case of Cæsarean section, cases of normal delivery, of syphilitic pregnant women, of incomplete abortion, of puerperal sepsis, and of other gynæcological diseases.

The danger of ward infection from herpes was not yet sufficiently recognised; this could be carried either by direct contact or by droplet infection. The resultant disease was chicken-pox. He showed the bed chart, prepared by Dr. L. S. Fry, of a ward

[1] See THE LANCET, Dec. 2nd, p. 1275.

in a children's sanatorium in which a child with severe herpes zoster infected all the nine other children in the ward, who had not had a previous attack, with chicken-pox. At this institution child visitors were not allowed, and it was not known that any adult with chicken-pox had visited the hospital during previous weeks. In another instance in the same ward a nurse had herpes of the supra-orbital nerve, and several cases of chicken-pox occurred in the ward two or three weeks later. Droplet infection generally indicated overcrowding of beds but was often associated at the same time with infection conveyed by direct contact, by an ambulant carrier, or by a thermometer, catheter, or table-ware. It was well known that some strains of pneumococci were especially virulent, but cases of ward infection had occurred in which this excuse did not hold. Some years ago Dr. Glover investigated an epidemic of influenza in a public school, in which many cases were complicated by the type I. pneumococcus. Half the cases of pneumonia were probably infected in the dormitories (which were rather overcrowded) before admission, but at least half were cases of influenza on admission, and the pneumococcal infection was probably contracted in the sanatorium wards, some of which were not cross-ventilated and all were overcrowded, the floor space being 58 sq. ft., and the inter-bed space varying from 2 ft. 8 in. to as little as 1 ft. 3 in.

Turning to streptococcal infections, Dr. Glover said that the introduction of an epidemic strain of streptococcus afforded an acid test of hospital efficiency. Its spread might be facilitated by influenza or by epidemic coryza, but such spread, he contended, revealed a chink in the armour. In a recent epidemic of hæmolytic streptococcal infection in a large general hospital, there were 18 cases of scarlet fever among the staff, 18 among the patients, 34 cases of tonsillitis in staff and 21 in patients, 3 cases of empyema, 1 case of otitis, 2 of nephritis, and 1 of bronchopneumonia. It was clear from the investigation that two-thirds of the cases were due to Type IV. scarlatinal streptococcus. Here all the usual channels of infection seemed to be present, and in one ward table-ware transmission seemed possible as a defective overflow pipe rendered it impossible to heat the sink used for the washing of table-ware to the proper temperature for disinfection. It was seldom for surgical scarlet fever to spread in hospital nowadays, but akin to this were ward outbreaks reported by F. A. Belam this year. One occurred in a general hospital, where a puerperal fever patient gave rise to eight cases of scarlet fever. There were also two other cases, in each of which a puerperal fever case caused four scarlet fever cases. Last year, in a south of England hospital, the reverse took place —i.e., scarlet fever gave rise to several cases of puerperal fever.

Otitis media must be regarded as an infectious disease though it is usually a secondary infection. Some epidemics of otitis had been characterised by a very high proportion of mastoid cases. One danger in large epidemics of measles or influenza in school sanatoria was due to the fact that emergency nurses had to be called in, and if one of them happened to have just been nursing a streptococcal case she might easily be a temporary carrier of a virulent strain. The work of Griffith, Gunn, and Allison had proved, by serological methods, that patients in fever hospital wards could be repeatedly reinfected with different serological types of hæmolytic streptococci, and that many of the so-called complications of scarlet fever were really due to fresh infections occurring in the ward with a strain of hæmolytic streptococcus of different serological type from that which was present in the patient's throat on admission and which had been responsible for his initial scarlatina. Several outbreaks of recurrences of acute rheumatism following ward epidemics of throat infection with hæmolytic streptococcus had occurred at various hospitals. Touching on recovery wards, Dr. Glover said it was a most desirable feature of modern practice to take children into hospital after tonsillectomy, and retain them for several nights, and it was essential that the beds in these recovery wards should be well-spaced, and that the wards should be efficiently cross-ventilated. Otherwise infection might occur.

The urgent need for economy had resulted in proposals to curtail the minimum floor and bed space in institutions, but the Ministry had insisted on its minima being observed. Lessening the floor space and inter-bed space was the worst conceivable form of economy in hospital construction, for not only did it effect an extremely small diminution in the relative capital cost of the whole hospital but the risk of ward infections was greatly increased, and the convenience of nursing, the amenities of patient life, and the chance of rapid convalescence and speedy discharge of the patients were all imperilled by any interference with the efficiency of space and ventilation. Any decrease from the minimum standard of 8 ft. wall space for acute non-infectious hospital cases, or 12 ft. for infectious diseases, was to be regarded as a retrograde step.

Perhaps the work of Watt and Gauvain showed a yet more excellent way for the prevention of ward infection. Watt suggested that with certain exceptions, such as patients with surgical shock and very old and feeble patients, something approaching sanatorium conditions would be to the advantage of the great majority of hospital patients. But in large wards the ventilation was necessarily a compromise determined by the weakest. The treatment most suitable to the needs of the individual could best be secured by providing a higher proportion of accommodation in small wards, in which selective treatment would become possible. Gauvain had suggested that the time has come when open-air principles might be usefully applied to other types of hospital. "Pink eye" (infective conjunctivitis) was another annoyance, and it was difficult to secure the cases early enough because they would not report. When they did it could generally be cured in a fortnight. Impetigo was another source of trouble; covering with an antiseptic dressing for five days was as a rule sufficient. Pityriasis rosea was sometimes met with, but not generally until it had spread over the body. To deal with any of these infections the staff had to be always on the look out for their earliest symptoms.

Dr. J. C. SPENCE followed with the paper which is printed at length on p. 1306 of this issue.

Dr. E. KAYE LE FLEMING spoke as medical officer of a public school, which, he said, was the greatest of all fields for the exercise of preventive medicine. He had been associated with such a school from the day it opened ten years ago, and he sketched the improvement brought about during that time. The difficulties of adapting a large country mansion to the purposes of a public school had been successfully overcome, but not without experience of the dangers of overcrowding more especially in the spread of droplet infection diseases. To deal with this disease group in such an institution an arrangement for expansion in dormitory accommodation was essential, and the control of such epidemics depended on the space available, together with early isolation.

He commended to his colleagues the unique opportunity presented by a school population for testing the efficacy of vaccines against the common cold. One of the more frequent minor ailments amongst school-boys was tinea cruris, which was apt to be regarded as devoid of interest until it chanced to spread to the scalp and attract attention there. At one time he had found tinea present in 10 per cent. of 350 boys. It could be cured in a week, but that meant treatment in bed.

Dr. BERNARD SCHLESINGER remarked that Dr. Glover had stressed the spread of infection from bed to bed, and the defective spacing which seemed to underlie this; but many of these infections spread when the patients were not in bed. Dr. Spence had pointed out the dangers of the hospital ward to the infant, and the desirability of isolating the "clean" child in a separate cubicle. He would prefer to separate the dirty patients from the clean ones. If an infant was not getting along well, and the digestion was not what it should be, it should be put at once into a separate cubicle. Efficient nursing, he thought, came before floor space as a preventive of ward infection. In one London children's hospital one section was occupied by hospital patients, the other by private patients, the beds being similarly spaced. It was possible to give the latter a higher proportion of nurses, and among them epidemics were practically unknown. He had seen epidemics such as Dr. Glover had described among rheumatic children in hospital with sometimes serious sequelæ. To make the most of the space they had adopted the plan of putting the beds head to foot, so as to ensure the maximum distance from mouth to mouth. In streptococcal infection he had found regular doses of aspirin for three weeks valuable; it seemed clear that allergic manifestations could be prevented by aspirin therapy.

Dr. GEOFFREY MARSHALL spoke of the conditions he had found in the dormitories of a preparatory school he had occasion to visit; the beds were side by side and almost touching one other. He was sure that slight cases of hospital fever still occurred, and it was wrong for physicians to take so little note of them. It had been his practice for many years never to admit to a general ward a case of Graves's disease if it could be treated in any other way; he had traced an epidemic which affected a whole ward to a patient with this disease. One occupant developed pericarditis and died.

Dr. F. H. KELLY said that at a certain preparatory school since the head-to-tail arrangement of beds had been introduced there had been far fewer cases of infectious disease. He had failed to get this arrangement sanctioned at a public school because the masters said it made the dormitories look untidy.

Dr. MONTAGUE SMITH considered that the dysenteric group of infections gave the greatest anxiety to children's hospital authorities; they accounted for many cases of illness among the nurses. A child convalescing from a *B. coli* infection, when transferred to another ward, had infected all the other four children in it, with disastrous results. Cases of diarrhœa and vomiting should be treated in observation wards. He agreed with Dr. Spence that different nurses should do the feeding and the washing of utensils. Infections were, he thought, often conveyed to children's wards on visiting days; in his hospital the visiting was restricted to half an hour, and no children were allowed to visit. Infection in hospitals centred largely around the education of the nurses.

The CHAIRMAN said he could confirm what Dr. Glover had said as to the frequency with which paratyphoid fever was diagnosed as appendicitis. He thought every child who had diarrhœa should have its stools examined; almost always a pathogenic infection was present. He agreed with Dr. M. Smith as to the liability of intestinal infections to spread, especially among the new-born.

In reply Dr. GLOVER said he was much interested in Dr. Spence's infection theory in the causation of marasmus, and felt it was probably correct. He did not think that any child who had had acute rheumatism should be put into a scarlet fever ward, as, when that was done, a severe recurrence of the rheumatism was the rule. Such a child was much safer at home.

ROYAL SOCIETY OF MEDICINE

SECTION OF LARYNGOLOGY

THE meeting of this section on Dec. 1st, under the presidency of Mr. MUSGRAVE WOODMAN, was mainly occupied by a discussion on the subject of Recent Advances in the Treatment of

Carcinoma of the Œsophagus

from the Surgical and Radiological Aspects. Prof. GREY TURNER said that the œsophagus was still the realm of experimental surgery. Radium and deep X ray therapy had proved very disappointing, and the surgical treatment of cancer of the œsophagus had been hampered by the inaccessible situation of the part involved and by the unwarranted impression that malignant disease of this organ is of a peculiarly virulent type and liable to disseminate at a very early stage. In the five cases in which he had been able to complete the removal of the œsophagus by the pull-through method there had been no evidence of dissemination. The truth was that in the past there had been little attempt to deal with these cases radically at an early stage. As a rule difficulty in swallowing, which at first might be only intermittent, had been allowed to drag on until it became not only a great discomfort but a serious menace to life and valuable time was thrown away. A change of heart in the profession, both as to the outlook and treatment, was essential for improved results. Prof. Grey Turner spoke briefly of malignant disease of the cervical œsophagus; here the difficulties of restoration were very great. The posterior mediastinal exposure for growths in this region had the advantage that the surgeon could conduct the manipulations under the direct guidance of the eye, but in practice the operation was very difficult, largely for anatomical reasons.

Prof. Grey Turner then described in detail the operation which he had designated the "pull-through" method. This plan had at last, after two failures, rewarded him with one complete success. In a third case (see p. 1315) the patient recovered. Six weeks after the operation on Oct. 4th, which completed the connexion between mouth and stomach, the gastrostomy tube was removed and the patient was able to take all food by the mouth. On this day a picture was taken at tea time when he had a poached egg with three slices of bread and butter, two pears, and half a pint of tea. Three days later leakage through a fistula restarted; the gastrostomy tube was reinserted, and a few days later the fistula was exposed and closed by suture. This time the whole area was covered by a film so that the suture line in the external skin and the deep sutures were not superimposed.

Prof. Grey Turner described two other cases, one of a man who lived for eight weeks after operation in which failure could be ascribed to technical errors which could be avoided in the future. As a result of his experience he felt that radical surgery held out considerable promise. Repair of the œsophagus should not be attempted, but after recovery from the excision a new œsophagus should be supplied by the anterior route. For growths of the upper end of the œsophagus he suggested an excision with formation of a cervical fistula and completion by a new œsophagus. For the lower end he would adopt the plan he had outlined; but for the middle portion he was inclined to give further consideration to the posterior mediastinal, or the transthoracic route. More information as to the exact living anatomy of these growths was required and here radiology and œsophagoscopy could help. To pessimists he would recall the high mortality which attended Sir Spencer Wells' pioneer work on ovariotomy, and yet his work helped to lay the foundation of the success which abdominal surgery enjoys to-day. The case presented was so recent that the ultimate fate of the patient was still in doubt, but the restoration of the capacity of normal feeding with some hope of freedom from recurrence has already proved an ample reward for the patient and his friends.

Mr. F. J. CLEMINSON, in association with Mr. J. P. MONKHOUSE, presented an analysis of 89 cases of carcinoma of the œsophagus, 79 men and 10 women, treated in the throat department of the Middlesex Hospital from 1925 to 1932; these excluded post-cricoid cases. He exhibited a table showing the chief sites occupied by the main growth. For the purpose of indicating these sites, the œsophagus was divided into three parts: upper three inches (6 cases), lower three inches (28 cases), and the intervening four inches (55 cases). The procedure adopted was first œsophagostomy, for diagnosis and biopsy, and then a skiagram in the Trendelenburg posture was taken to ascertain the extent of the growth. Radon was applied by means of silver tubes shaped like a zeppelin. Four of the cases were treated by thoracotomy following preliminary collapse of one lung, radon seeds being applied after the incision was made. In a fair percentage of the cases the ulceration disappeared after the treatment, without leaving any sign. In fatal cases, however, above and below the site of the growth there were found colonies of cancer cells lying in the lymphatics. He and his colleague avoided gastrostomy when that was possible. A short history of trouble did not necessarily mean that such a case was less advanced than one with a longer history. Only one patient in the series was treated by X rays. Post-mortem examination of fatal cases showed widespread dissemination, in mediastinal, cervical, and abdominal glands, and in pericardium, heart, lungs, liver, kidney, suprarenals, and pancreas.

Dr. WALTER LEVITT said that hitherto the results of X ray treatment of malignant cases had been disappointing, though the disease was histologically of a type which should prove radiosensitive. In 1923 Dr. N. S. Finzi treated a patient who had extensive œsophageal growth by means of radium. The growth disappeared, but the patient died of secondary deposits. In 1930 he (the speaker) treated a case of the kind by X rays and the growth was replaced by a fibrous stricture, and the patient lived two years. The results of X ray treatment of carcinoma of the œsophagus had been almost uniformly bad; all that could be hoped for was a moderate relief of the symptoms. Metastasis was relatively uncommon in carcinoma of the œsophagus; of 51 autopsies on such cases at St. Bartholomew's, 11 were free from metastases. These growths should be radiosensitive, and a technique had now been worked out by which greatly increased doses of the rays could be applied to the œsophagus. He described some good results from the treatment. The requirement was large doses of very hard X rays accurately concentrated on the œsophagus.

The PRESIDENT referred to the view of Prof. Grey Turner that the radiologist was the person to help determine whether a growth was fixed, and said the œsophagoscopist could tell all that was necessary about the growth, how it looked and how it moved. All members probably had cases in which a growth had been eradicated by the implantation of radon seeds inside the growth, but real relief was not obtained because the growth was not attacked from the outside.

Sir THOMAS DUNHILL paid a tribute to Prof. Grey Turner. It must always be remembered that, in the beginning, these growths were local, first being confined to the mucous membrane, then to the submucosa. The best results would be secured by attacking them at this stage. The degree of disturbance to patients who had undergone these operations was remarkably small, and he hoped Prof. Grey Turner would go on with his attack on the problem. In his own view the transpleural approach did not add much to the gravity, and would probably add much to the safety of the operation.

Mr. GORDON TAYLOR also congratulated Prof. Grey Turner on his pioneer work.

Dr. FINZI said it was now 20 years since he showed, before the society, a case of carcinoma of the œsophagus treated by radium. Not long after that he had a man with a similar disease who tolerated the passage of the œsophagoscope very well. The growth was behind the sternum, and it so completely disappeared under radium that many would not believe it had existed. The patient remained well two years, and when he died he was found to have a spread of carcinoma along the œsophagus below the region where the original growth had been. The part which had been treated remained free from growth. Another patient lived six years after similar treatment and then died of gastric ulcer, which she had had before radium was first applied.

Mr. L. F. O'SHAUGHNESSY said that the problem which specially interested him was that of restoration of continuity after a resection of the œsophagus. Possibly radium and X ray therapy might take the place of surgery for this condition, but surgery would always be necessary for innocent tumours of the lower œsophagus. He saw two of these during six months abroad, and surgical treatment was very successful. He favoured an end-to-end anastomosis of the œsophagus, and this method was practicable for growths in the lower œsophagus. The fine result Prof. Grey Turner now showed was the more remarkable because it was the only œsophagoscopy which had been carried out successfully for carcinoma; yet if it were possible to restore safely within the chest the power of swallowing, this would have æsthetic advantages.

Mr. WALTER HOWARTH said that the possibility of local excision depended on the mobility of the œsophagus and the position of the growth. At the upper end the only mobile portion of the œsophagus was from below the cricoid cartilage to the sternal

notch. In that situation he had encountered only two cases, the first of them 12 years ago, when he excised that section of gullet and brought up the cut end from behind the sternum, uniting it to the deep pharynx. That patient lived six years, though he had a stenosis which prevented him swallowing more than semi-solids. The other case he saw nine years ago and the growth was in the cervical œsophagus. It extended so far that it could not be hooked into the wound, and so he had to be content with putting radon seeds round it. This man remained cured of his growth; there was some stenosis, but it was supple, and he swallowed well. Carcinoma patients could be kept going a long time on simple intubation.

Mr. T. B. JOBSON wished to make a further plea for the use of radon seeds applied round the growth by means of the œsophagoscope. By using Souttar's tubes, diathermy, and so forth, it was rare to prolong life for more than six months, but during the last two years radon seeds had been used by his colleagues and himself, with encouraging results.

Dr. G. H. STEELE supported Mr. Jobson's remarks. He had one patient apparently at death's door with cancer of the œsophagus, unable to swallow even liquids. Radon seeds were applied and he was now well. No mortality attached to this treatment.

Dr. DOUGLAS WEBSTER said he had had 14 cases of œsophageal cancer, and the only ones which had done well were those treated by prolonged methods such as Dr. Finzi and others had elaborated.

Prof. GREY TURNER, in reply, said he forgot to mention the importance of endoscopic examination in these cases; it afforded much help.

Mr. CLEMINSON also briefly replied. He had reported elsewhere his experience of thoracotomy; prolongation of life after this was no more than after endoscopic treatment.

REVIEWS AND NOTICES OF BOOKS

The History and Epidemiology of Syphilis

By WM. ALLEN PUSEY, A.M., M.D., LL.D., Professor of Dermatology Emeritus, University of Illinois; sometime President of the American Dermatological Association and of the American Medical Association. Baltimore: Charles C. Thomas. London: Baillière, Tindall and Cox. 1933. Pp. 113. 10*s*.

THIS little book comprises the Adolph Gehrmann lectures for 1933, given by Dr. Pusey in the College of Medicine, University of Illinois, Chicago. In three lectures he describes the beginning of syphilis in Europe, the development of our clinical knowledge of the disease, and its epidemiology. The book is admirably illustrated with nearly 40 reproductions of old prints, and portraits of syphilographers from Paracelsus and Falloppio to John Hunter, Wassermann, Noguchi, and Ehrlich.

Dr. Pusey is an adherent of the school which believes Columbus' crew to have acquired syphilis in Haiti, and to have spread it on their return to Europe, when many of them joined the army of Charles VIII. which descended on Naples in 1495. He describes this operation as a triumphal march of debauchery, and has collected evidence which shows the wide and rapid progress of syphilis after the disbandment of this army. The chronological sequence of the spread of the disease through all parts of the world which at that time (1497–1505) had any contact with Europe is indicated. The disease reached Japan only in 1569, a fact established by the elaborate studies of Prof. Dohi, of the University of Tokyo. The views of the pre-Columbian school are examined by Dr. Pusey; though his dismissal seems rather dogmatic at first sight it is supported by the preponderance of evidence. Dr. Pusey shows what a stimulus this new plague provided for the objective study of disease in the sixteenth century. The recognition of the venereal origin of a disease accompanied by severe constitutional symptoms started in 1497 an immense spate of literature. It is of interest that Paracelsus, who used both mercury and arsenic in the treatment of syphilis, and John Hunter alike confused the ideas of their successors by errors in observation. The work of the eighteenth century is admirably sketched, and Dr. Pusey pays a tribute to clinicians of that period whose descriptions of symptoms, signs, and pathology equal or even surpass those of modern writers.

These lectures bear the stamp of authority and provide entertaining and instructive reading. In a future edition we feel that Charles' fateful campaign might be given in greater detail, and the work would gain by the collection of the extensive references into a bibliography.

The Enlarged Prostate and Prostatic Obstruction

Second edition. By KENNETH M. WALKER, F.R.C.S., Lecturer in Venereal Diseases at St. Bartholomew's Hospital; Surgeon with charge of Genito-Urinary Department, Royal Northern Hospital; Surgeon to St. Paul's Hospital. London: Humphrey Milford, Oxford University Press. 1933. Pp. 223. 14*s*.

IN the second edition of Mr. Kenneth Walker's excellent survey of the treatment of prostatic obstruction there are two important additions: a chapter on the malignant prostate and one on the mechanism of obstruction. The author has chosen to give a general review of the subject rather than his personal views and experiences. It is difficult to make out, for instance, whether he is accustomed to do the open or the older prostatectomy, and which, among the several measures for the control of hæmorrhage, he himself adopts. His desire to present all sides sometimes leads to dilemma in the reader's mind. He gives the description of the open operation in Thomson Walker's own words, containing the assurance that in removing a wedge from the posterior margin of the opening left after enucleation "no fear need be entertained that cutting the vesical sphincter will cause post-operative incontinence" (p. 106). But on p. 13 we read that the internal sphincter is "the chief factor in bladder control" after prostatectomy unless it has been damaged during the operation, a statement which would seem to imply the desirability of preserving the sphincter.

It is not made clear whether Mr. Kenneth Walker uses an Irving box after operation or a suction apparatus; nor does he define his practice with regard to the testing of renal function. We cannot agree that "exactly which set of tests should be employed in a given case is of course a matter of personal taste." It must be possible to form some judgment on their relative merits. Fortunately Mr. Kenneth Walker's standard of reticence about his own practice breaks down in an account of his experience with perurethral operations, where he

quotes the results obtained by him in 100 consecutive cases. This chapter is really valuable; his cases have been surprisingly free from complications and the mortality is significantly low.

To any surgeon or practitioner who wants to see the current views on prostatic obstruction briefly and succinctly described we commend this book. He could not find a saner and more unbiased account.

Handbook of Physiology

Thirty-third edition. By the late W. D. HALLIBURTON, M.D., F.R.C.P., F.R.S., formerly Professor of Physiology, University of London, King's College; and R. J. S. McDOWALL, M.B., D.Sc., F.R.C.P. Edin., Professor of Physiology, University of London, King's College. London: John Murray. 1933. Pp. 971. 18s.

WITH the death of Prof. Halliburton this work, associated with his name for nearly 30 years, enters upon a new phase of its existence. The only visible sign of the change is the abrupt transition in the designation of the edition (from the nineteenth to the thirty-third) which indicates that now the original publication of Kirkes in 1848 is regarded as the first edition. The volume maintains not only the standard set by its predecessors, but also their tradition of catering primarily for the medical student. Although a comparatively short time has elapsed since the previous edition, opportunity has been taken to rearrange the first few chapters, and to introduce even more illustrations. The book also shows evidence of general revision and is quite up to date. The index is excellent, and the table of physiological data at the end very useful. Some of the figures given in this table do not agree with those in the text, but this is no disadvantage if it indicates to the student that the composition of expired air, for example, is not to be taken as absolutely constant. Students should be grateful to Prof. McDowall for keeping clear his trail through the forest of physiological facts, which grows with almost tropical rapidity. He makes it clear that selection of material has been necessary, and does not claim absolute completeness for the book. The insertion of blank pages for notes at the end of each chapter is a delicate compliment to the reader. Attractively bound, printed on good paper, well illustrated and pleasantly written, this work should continue to enjoy popularity among students who have not time or inclination to tackle the books which "contain everything," but want a reasonably detailed survey of physiology as a whole.

Stedman's Medical Dictionary

Twelfth revised edition of "A Practical Medical Dictionary." By THOMAS LATHROP STEDMAN, A.M., M.D., Editor of "The Twentieth Century Practice of Medicine." London: Baillière, Tindall and Cox. 1933. Pp. 1256. 35s.

THE eleventh edition of this dictionary appeared at the end of 1930, and since then, as Dr. Stedman rather unkindly remarks, "the prolific medical jargon has grown by an average of more than one new word a day." Thirty new pages have been added in which are included all the changes in the B.P. 1932. The work of keeping such a dictionary up to date is far more onerous than is generally appreciated, and the few slips which have caught our eye within the first few minutes of study may, as so often uncannily happens, be the only errors we shall find. For instance, there is a verbal slip under "hamamelidis folia." Roux's prenomen was not spelled Emil. Hugh Chamberlen's dates are more correctly given (1664–1728) in William Munk's Roll of the Royal College of Physicians of London. The inventor of the Nernst lamp was Walter, not Walther, and the filament is composed not of magnesium but of zirconia with oxides of the yttrium series. In the main the dictionary is impeccable, and we congratulate the author upon his accuracy and assiduity. The dictionary is a most valuable work.

Science and God

By BERNHARD BAVINK. Translated by H. S. HATFEILD. London: G. Bell and Sons, Ltd. 1933. Pp. 174. 5s.

MODERN physicists are inclined to look on the universe as a framework of thought; its content is not substance, which is now abandoned as unreal; hence there seems to be no obstacle to its being spiritual. Along these lines dualism disappears and there is no difficulty in a religious man being scientific or a scientist religious. Such is the briefest summary of a book which is already condensed; as the author says, it is not light reading.

St. Bartholomew's Hospital Reports

THE contents of this volume (LXVI., pp. 363, 1933, John Murray, 15s.) fall into four groups: clinical, pathological, statistical, and historical. The largest is the pathological group, composed of four papers, two of which by Dr. G. A. Harrison, on alkaptonuria and melanogenuria, and by Dr. W. G. Oakley, on the blood-urea clearance test, have a direct bearing on clinical problems. Dr. L. P. Garrod's thesis on inhibitory selective culture media contains original work on the selective cultivation of the *Streptococcus pyogenes*, and also renders easily accessible much information previously scattered throughout the literature about the use of differential inhibition in bacterial cultivation. Mr. Jackson Burrows publishes here in full, with an extensive bibliography, the Hunterian lecture on tissue culture in its relationship to surgical pathology, which appeared in abridged form in THE LANCET of Oct. 28th, 1933. Mr. John Beattie contributes a paper on a rare form of paralysis of certain of the leg muscles following parturition, due, he believes, to pressure upon the lumbo-sacral cord by the obstetric forceps; and the other clinical contribution is a record of the proceedings at a meeting of the surgical section of the Royal Society of Medicine, held at St. Bartholomew's Hospital in January, 1933. It includes a well-illustrated and detailed description by Mr. R. E. Norrish of the remarkable display of anatomical material, prepared under the direction of Prof. H. H. Woollard, to show the macroscopic and microscopic anatomy of the human sympathetic nervous system. Patients from whom portions of the sympathetic system had been excised for dysmenorrhœa, for disease of the urinary tract, the alimentary canal, and the blood-vessels were shown at the meeting; a brief account of the cases is here supplied with short commentaries on the therapeutic problems involved.

Statistical studies include a report on the health of the nursing staff, by Dr. W. P. S. Branson, and returns from the follow-up department showing late results in 1000 cases of carcinoma of the breast and 374 cases of carcinoma of the buccal cavity. In the latter, by Mr. R. W. Raven, an attempt has been made, by laborious analysis of the results of different methods of treatment, to deduce facts which may be a guide to future practice. Two prize essays on historical subjects, one written by a nurse and the other by a student, complete a volume which contains much that is stimulating, helpful, and interesting, and is worthy of detailed study.

THE LANCET

LONDON: SATURDAY, DECEMBER 9, 1933

UNEMPLOYMENT AND FOOD

THE original object of the unemployment insurance scheme was to save the worker from being thrown upon public or private charity during brief periods of enforced idleness. It was assumed that many of those insured would have savings or other resources that could be used in an emergency to supplement the benefits provided; and in fact, as is well remembered, the payments of "the dole" were often made to those who had no need of them nor any valid claim to the continuous support of an impoverished community. But these times have passed. The means test has made it impossible to go on drawing money unless such aid is conspicuously necessary, and the weekly payments of unemployment and transitional benefit, instead of being a temporary help, are now to many people the only source of livelihood, year in year out, for an indefinite period to come. In the Bill now presented to Parliament the Government faces this fact and endeavours to set the system on a firm and just basis, removing grievances and improving efficiency. This is a difficult and mostly thankless task, and the proposals have been greeted with corresponding respect. But it is right that they should also be subjected to very searching examination, for in England, as BAGEHOT pointed out, a criticism of administration is as much part of the polity as administration itself. The question of unemployment relief is only incidentally one of party politics and the English constitution will not be living up to its tradition unless all parties see to the justification of BAGEHOT's dictum that in debate "everything which is worth saying, everything which ought to be said, most certainly *will* be said."

For our part we wish to express a continuing concern for the sufficient feeding of the unemployed—and especially of their children. The B.M.A. committee's report,[1] which is only the last and most authoritative of several with the same message, does nothing to remove the opinion, widely held, that many families living on unemployment or transitional benefit are unable to secure an adequate diet unless they have other help. The difficulty of doing so increases with the number of children and their age. The weekly unemployment allowance per child is 2*s.*; whereas the committee find that no child should be fed for less than 2*s.* 6*d.*, and the cost goes up steadily until from 14 onwards a boy needs as much as his father (5*s.* to 6*s.*). If this view is substantially correct—and who will dispute it?—each child represents a monetary deficit; and though there may be some economy in catering for larger numbers the committee regard this as insignificant when expenditure on food is at a minimum. It is clear that if there are six or seven children, which cannot be very unusual, they are not likely to get the B.M.A. diet; and if in addition the rent happens to be high, which again is not exceptional, there is every likelihood of serious deficiency. But even parents wise enough to have only three children cannot always be in a position to provide proper food out of the benefit paid them. Such a couple would receive 23*s.* 3*d.* for themselves and 6*s.* for their children. If (not to take at all an extreme example) the latter were aged 1, 7, and 9, the family food on the "B.M.A. mean scale" would cost £1 a week, leaving 9*s.* 3*d.* for rent, clothes, fuel, lighting, bedding, insurances, and all other purposes. Rents being what they are, there must be many such households in which nothing like £1 can be found for food alone.

If, as these figures indicate, insurance benefit is commonly insufficient to give its recipients enough to eat, one would expect an increase of malnutrition in the population; yet we are assured that "there is, at present, no available medical evidence of any general increase in physical impairment, in sickness or in mortality."[2] The possible explanations of this discrepancy are several. To some extent it is due no doubt to inadequacy of the criteria used in judging good and bad nutrition. As the *Medical Officer* (Dec. 2nd) puts it:—

> "If you attempt to bridge a twenty foot stream with a 19·95 foot plank, the result is an obvious failure. But if you attempt to feed a 20*s.* food value family on 19*s.* 11*d.* no measurable failure is apparent, at all events for a very long time. If you want to see results, you may have to cut the diet down to 10*s.* or less, for so long as bulk and caloric value are maintained, the ordinary signs of ill-nutrition do not become manifest."

Probably, however, the main reason why things are no worse is that the statutory benefits have often been supplemented—not by public assistance committees, which seldom go beyond the scale of the dole, but by the charity of neighbours and, where children are concerned, by local authorities through school meals and milk distribution. And here it is appropriate to note the word "general" in the Ministry's otherwise reassuring statement. The reports of medical officers of health analysed in our columns have shown that there are areas where malnutrition—sometimes of children, sometimes of mothers alone—is definitely increasing, and there are many other areas where the situation has been saved only by a rapid expansion of schemes for free dinners and the like. Local authorities vary in their opinions, and their practice: for example, Sir GEORGE NEWMAN[3] states that last year there were 174 of them using the permission to provide school meals, but 142 were not. We suggest that if supplementary feeding is necessary in order to make the present scale of unemployment benefit tolerable it should be readily accessible to all who need it. The Government does not propose to review the benefit

[1] Published as supplement to the *British Medical Journal* of Nov. 25th, and obtainable separately from B.M.A. House, Tavistock-square, London, W.C.1. Post free 6*d.* Reviewed in THE LANCET, Nov. 25th, p. 1215.

[2] Report of C.M.O. of the Ministry of Health, 1932, p. 41.

[3] Report of C.M.O. Board of Education 1932, p. 135.

scale; and it may well have public sanction for its determination to keep the money wages of the unemployed below the money wages of those in poorly-paid work. Nobody, however, wishes to apply economic pressure to the workless through their children, and it is impossible to justify the underfeeding of children in any part of this country at a time when food production is being restricted through the lack of markets. If, as we have said, supplementary feeding is a necessary part of the provision for the unemployed it should be accepted as a State liability—to be discharged perhaps through the new Unemployment Assistance Board. In fulfilling this function, the Board would certainly find strong support for a policy of generosity towards the young. To quote Sir FRANCIS FREMANTLE: "We cannot be content with the present position; we want meals provided on such conditions that all children who need it shall get food."

EXPECTANT TREATMENT OF APPENDICITIS

MANY years ago the policy usually followed in the treatment of acute appendicitis was one of delay in resort to operative measures. Then succeeded an era in which immediate laparotomy for every case was advocated. It was OCHSNER who pointed out that some patients are so ill that any operation will kill them, and that a proportion of these can be saved by submitting them to a period of complete starvation with fluid only by rectum, maintenance of a sitting position, and morphia to ensure rest. From this has evolved the advice given by a number of surgeons, including the authors of several students' text-books, in favour of what is inaccurately called "delayed treatment." This advice is the cause of most of the remaining controversy over the management of acute appendicitis,[1] and it is chiefly from this point of view that a long monograph, produced by GUNNAR BAUER[2] of the General Hospital of Malmö, will be found of interest.

In England there is no difference of opinion about treatment in the first 48 hours; it is during the third, fourth, and fifth days that that practice greatly varies. The successes claimed for "delayed treatment" at this stage are discounted by its critics because the series quoted are in some ways unrepresentative. There are always reservations; for example, children are regularly excluded. Thus, it is argued, the general impression of safety conveyed by its exponents is by no means wholly warranted. The object of non-interference is to obviate the risk of spreading the peritonitis to unaffected parts of the abdomen and the risk of producing a fæcal fistula during manipulations of softened bowel wall; the appendectomy is postponed to the quiescent interval, when the operation will be easy and safe. But there are also dangers and disadvantages in delay. The peritonitis may not localise but spread; an abscess may form and itself leak into the general peritoneal cavity—a very fatal event; an abscess though localised may lead to serious complications, such as other abdominal abscesses, pylephlebitis, or ileus; and absorption from the abscess may lead to a severe toxæmia, which will make the patient too ill to stand an operation. Although satisfactory resolution will take place in a majority of the cases, there is a substantial minority in which the only signs that operation has become necessary are those of spreading peritonitis—an indication that the immunity response of the patient is failing to deal with his infection. Moreover, the waiting period of starvation and toxæmia may be exceedingly unpleasant to the patient and the cause of grave anxiety to his medical attendant. In BAUER'S experience at the Malmö clinic the disadvantages have quite outweighed the advantages. Of 18 cases in which the expectant method was used, serious complications arose in 16. Four of the patients quickly died; these cases however can be eliminated from consideration because they were probably too ill to be saved by any treatment. In two cases the peritonitis spread and necessitated operative intervention, after which one of the patients died. In seven cases an abscess perforated, and two of these were fatal. Of the remaining three, two patients after temporary improvement relapsed and died, being too ill for operative treatment; the third developed an abscess but recovered after it was opened.

In adopting expectant treatment the intention is to avoid operation at a time when it is particularly dangerous. The risks of such operation have probably been exaggerated, but if it is undertaken the surgeon should confine his activities to the minimum possible. Further contamination must be avoided, and if the appendix cannot be removed without laying bare further raw areas to infection, or running the risk of a fæcal fistula, it should be left behind. At the same time it has to be realised that there are serious objections in leaving the appendix in situ. The toxic and septic conditions are apt to be kept up, and extension may take place even when there is free drainage of the abscess cavity to the exterior. Here again the dangers of radical operation—that it may cause dissemination of the disease, ileus, or fæcal fistula—have been over-emphasised. The Malmö statistics, for what they are worth, are in favour of radical operation up to five days after the onset of appendicitis; after that there is scope for individual judgment. BAUER'S opinion is that "immediate radical intervention attains the desired end quicker and more definitely, but may entail danger for the patient and ought to be practised only by experienced and technically skilled operators."

BORROWING MONEY TO BUY A PRACTICE

AT a recent conference Dr. H. G. DAIN said that a number of practitioners on the panel are tied hand and foot by moneylenders who had lent them money to buy their practices. The disclosure to which he was referring was made at the annual meeting of the National Association of Insurance Committees by Mr. H. W. TOWNLEY, a member

[1] See, for example, THE LANCET, 1933, i., 363, 581, 1229, 1317, 1364.
[2] Zur Behandlung der Appendicitis-Peritonitis, Acta Chir. Scand., 1933, Suppl. xxiv.

of the Lancashire committee, and has been confirmed and indeed supplemented by Mr. J. A. SPEED, clerk to that committee, in an address which he gave to a Manchester group of approved societies on Nov. 22nd. "We have on our books," said Mr. Speed, according to a report in the *Manchester Guardian*, "over one hundred cases where panel fees, amounting to £50,000 a year, are assigned to persons who have no qualifications other than their wealth." He described a type of young doctor in Lancashire, with good qualifications but little experience and less money, who did not wish to begin practice as an assistant, and—to be his own master—needed an advance of money. As such, the first thing required of him, according to Mr. Townley, is to sign a form of resignation from the medical list on a document which bears no date nor the name of his successor. He next has to sign a form of mortgage on the practice, the terms of which are apt to be oppressive. A firm of moneylenders, said Mr. Townley, regularly presented to his committee an authority for payment of fees at the end of the quarter on what was good security, yet the rate of interest was over 40 per cent. The young doctor in question, when he comes to realise who is in fact his master, may desert the practice, when the moneylender simply completes the form of resignation and notifies the insurance committee the name of the successor to the practice. Doctors on the Lancashire list have thus become salaried servants subject to one month's notice not from the insurance committee but from the moneylender to whom all panel fees are assigned. The committee is determined to put an end to the situation, and has made suggestions which have been referred to the executive council of the National Association.

It cannot be supposed that Lancashire is unique in having trustful borrowers and too-willing lenders, although we have the statement of the clerk of the West Riding committee that similar conditions do not prevail on that side of the Pennines. He was able to assure his committee a week or two ago that in all transfers of practices in the area any mortgage had been arranged through a reputable insurance company, and he knew of no case in which the incoming doctor had been exploited. But in London, at all events, panel fees have been assigned to moneylenders and the insurance committee has not intervened. There are, of course, as Dr. Dain remarked at the panel conference, a number of insurance companies prepared to advance money on reasonable terms—although opinion may differ on a definition of reasonableness. The applicant may want to get a loan of a large proportion, or even the whole, of the purchase price of the practice, and this may be refused him by the society which is careful to inquire whether he will then have sufficient money to live on. The lending company, which does not require any assignment of panel fees or of other receipts, must satisfy itself of the solidity of the borrower and may indeed, with advantage to him also, inquire into the practice to be sold—where the interests of lender and of purchaser are presumably the same. In the practice purchase scheme, for instance, of the Medical Sickness, Annuity and Life Assurance Society, which was inaugurated in 1927, it soon proved in the interests of both parties not to lend money without careful investigation, the result of which sometimes showed the applicant that the practice he proposed to purchase was not exactly suitable to his purpose. In this scheme an application for the whole purchase price is only entertained when the applicant can supply guarantors, and the loan is then offered at 4 per cent. per annum (after deduction of income-tax), repayment to be made over a period not exceeding ten years. Where no guarantor is available but the applicant can provide at least 20 per cent. of the purchase price, the interest is 4½ per cent., and repayment must be completed within seven years. The scheme has now been running six years without a single bad debt having been incurred, and a number of borrowers have repaid their loans in full. The Society stipulates that the borrower must join one or other of the defence societies, and must take out a sickness and accident policy with the Society. This seems reasonable enough, unless the lender is able to offer an equivalent policy as security, but some people would resent a loan from an insurance company being made conditional on doing business with that office and no other.

To those about to buy the whole or a share of a practice we would say don't do it without consulting a solicitor familiar with medical problems. No defence society will protect the imprudent from the results of his own acts, although they may wreck his whole life. The offer or acceptance of a loan on inequitable terms violates no professional principle. Little as the medical student learns about the ethical problems which will face him in practice, he is as a rule still less equipped to face the financial problems that will arise as soon as he thinks about starting in practice. It is something of a reproach that there is no one even in the large medical schools whose concern it is to advise on these subjects. Certain schools, it is true, invite senior men engaged in insurance practice to lecture to advanced students on panel work, but it is quite possible for a student, whether man or woman, to face the problem of starting in practice without having had any instruction or business training. Prevention in such matters would be far better than cure. We think it should be possible to appoint a roster of practitioners to meet groups of students in the later years of study, and to interest them in the material problems of medical practice, inasmuch as any mistake which is made may so easily be irrevocable.

THE ROYAL MEDICAL BENEVOLENT FUND

WE published recently an appeal from Sir THOMAS BARLOW on behalf of the Christmas Gifts Fund of the Royal Medical Benevolent Fund. This week Sir THOMAS repeats the appeal acknowledging a response up to the date of his letter which should enable a Christmas gift to be given to all the annuitants of the Fund; but, he adds, a further sum of £300 is still required if those who are in receipt of grants from the Fund are to

receive similar treatment. The individual Christmas gifts amount to £1 10*s.* per head—a small sum, but only those who live on the edge of penury can appreciate the significance of its receipt. We trust therefore to be able to announce before Christmas that Sir THOMAS'S letter has achieved its object, while adding that there is only just time to send in donations so that they may form a part of the Christmas disbursements. The donations should be addressed to the hon. treasurer of the R.M.B.F., at 11, Chandos-street, London, W.1, and we urge that their size should not be dictated by Sir THOMAS'S modest request.

A sum of £300 is mentioned, but admirable use could be made of far more. For the opportunities afforded by the administration of the Fund for sadly needed beneficence are wide, and however varied they may be in detail have this in common—the situations have arisen in the families of our professional brethren. The amount received by the Fund as a reply to the Christmas appeal has been rising for the last two years; this is gratifying, but serves also to bring to mind that much wider support is needed to place the Fund in a position to meet the urgent claims upon it. The money for which Sir THOMAS pleads with an eye upon a special need will probably be forthcoming, but we feel that members of the medical profession should not define their donation as having an especial Christmas significance, or limit their generosity in accordance with the modesty of the topical plea, but should in far larger numbers than at present subscribe annually to the general purposes of the Fund. We have commented often upon the fact that the amount contributed annually by some 50,000 registered practitioners for medical benevolence is in bulk almost dramatically small, barely exceeding a subscription of 3*s.* 6*d.* per head; it is clear that the disproportion between what is needed and what is forthcoming results from the absence of general appreciation of the work of the Fund. Within the bounds that its income permits the Fund brings a relief from extreme penury to its annuitants and grantees, a relief whose value would often be much enhanced by increase in the amounts given. And the claims of many others outside the confined scope of the existing activities are very real, but remain unmet. There is a proverb, much employed at the end of the year, which suggests that he who gives quickly gives doubly. The proverb will not stand analysis; he who gives quickly gives conveniently but not in twofold measure. We wish to support Sir THOMAS BARLOW'S appeal to our readers by begging that they should give not only with convenient quickness but also in two directions, that is to the Christmas Gifts Fund and to the general fund. When giving pleasure to the annuitants and grantees why should not pleasure also be given to those responsible for the working of the R.M.B.F. in the form of a substantial increase in annual subscribers?

ANNOTATIONS

INDUCTION OF ŒSTRUS BY SYNTHETIC COMPOUNDS

Two communications recently read before the Royal Society by Mr. J. W. Cook, D.Sc., Prof. E. C. Dodds, and their co-workers mark a new era in the study of œstrus-producing substances. The determination of a tentative structural formula for trihydroxy and ketohydroxy œstrin has shown that they are members of a wide group of substances, of which many have distinctive biological properties. A large number of these substances, of a structure analogous to that now accepted for œstrin, were examined for œstrus-producing activity. Several were found to be active; all these contained the phenanthrene ring-system, and the most active ones possessed oxygen-containing groups. Some of the compounds were only effective in large doses of 100 mg., but the di-*n*-propyl compounds showed a much greater activity, 0·05 mg. causing the characteristic changes. The special interest of these results lies in the fact, first, that substances differing widely in the details of molecular structure from the natural hormones can have œstrus-producing activity, and, secondly, that different biological activities may be shown by the same substance, since two of those now shown to be œstrogenic are also carcinogenic,[1] while a third is the antirachitic vitamin calciferol.

Chemical work on the œstrus-producing substances has not always been distinguished by the care taken with the biological testing, but in this work of Cook and Dodds the biological side has received very thorough attention. In particular, the old error of relying solely on the vaginal cornification reaction as a criterion of œstrus-producing activity has been carefully avoided. The uterine reaction (distension of the lumen in the rat and mouse) was also examined and, in addition, it was demonstrated that the synthetic compounds caused the feminisation of the plumage of the capon in the same way as does natural œstrin.

[1] Nature, Jan. 14th and Feb. 11th, 1933; see THE LANCET, 1933, i., 373.

HEALTH OF THE ROYAL AIR FORCE FOR 1932

THE report[1] presented by Air Vice-Marshall J. McIntyre mentions 318·4 cases of disease per thousand in a total force of 31,577, compared with 359·3 last year in a force of 32,448. The most important medical fact about a service is the wastage: how many men have been lost in the year by final invaliding or death, and why? Questions to which an answer is readily found in this report. The chief causes of invaliding were pulmonary tuberculosis 31 (last year 19) and psychoneurosis 21 (last year 32); there were no deaths from cerebro-spinal fever (last year 10), 5 from carcinoma, 4 from pneumonia—in all 34 from disease. There were 81 deaths from accident, 46 of them from flying (including parachute) accidents; it is satisfactory to learn that these are decreasing in proportion to the hours flown. The incidence of venereal disease has been steadily falling from 36·1 per thousand in 1921 to 11·3 this year, the lowest figure yet reached. Loss of service by malaria has been halved in four years, but that from sand-fly fever persists unchanged. The best certificate to the official care for hygiene in the force is the great increase in the monthly case-incidence which takes

[1] H.M. Stationery Office. Pp. 81. 1*s.* 6*d.*

place in England immediately after the men return from their home leave in January and October. There is no such peak abroad, but cases there increase in August to October, corresponding to the seasonal maxima of sand-fly fever (July in Iraq), dysentery (August) and malaria (September), both worst at Basrah. Of schistosomiasis 35 cases came unexpectedly to notice a hundred miles or so north-west of Aden, where it had not been heard of before. Tinea cruris has been obstinately present for two years at Cranwell. Research into the use of oxygen at great altitudes has been continued, and has been of use to the Everest expeditions. The physical methods of the R.A.F. for examining candidates for flying are being extended to the selection of trades for apprentices; recruits are minutely examined at entry, half the candidates being rejected, but of 6 only of the accepted is there mention of being discharged later. During the year 3881 officers, cadets, and airman pilots were physically examined, between 93 and 97 per cent. in the various categories being found fit for flying duties.

THE ST. LOUIS EPIDEMIC

LAST year in England and Wales only 564 cases of encephalitis lethargica were notified and 825 deaths were reported. This excess of deaths over notifications includes a proportion of patients who were not reported during life and of patients reported in previous years who died after an interval of chronicity. Thus the progressive decline in the number of cases since 1924—the peak year when 5039 cases were notified with 1407 deaths—may be regarded as real. A similar decline was observed in other countries up to the end of 1932, and encouraged the hope that epidemic encephalitis was disappearing. Hence the serious outbreak in St. Louis, to which reference was recently made,[1] came with something of a shock. Encephalitis first appeared in North America in the winter of 1918–19, as a minor epidemic of a somnolent-ophthalmoplegic form coupled with bulbar-paralytic and amyostatic symptoms. During the last decade the deaths reported in the registration areas of the United States have been as follows:—

1920 .. 1070	1924 .. 1441	1928 .. 1373
1921 .. 1355	1925 .. 1630	1929 .. 1313
1922 .. 1268	1926 .. 1499	1930 .. 1062
1923 .. 1966	1927 .. 1326	1931 .. 972

Taking the death-rate at about 20 per cent., Surgeon-General H. S. Cumming, who gave an account of the position at the October session of the Office International d'Hygiène Publique, estimates that between 20,000 and 22,000 cases occur annually in the whole of the States. The disease was however regarded as declining until the occurrence this summer of the outbreak in St. Louis and its environs, where in three months 1029 cases were reported with 187 deaths, a fatality-rate of 18 per cent. Cases have been reported from other cities in Missouri and the neighbouring States, the largest outbreak being at Independence, a suburb of Kansas City, with a population of 15,000, situated more than 200 miles from St. Louis. Cases have occurred each year in St. Louis itself, the highest incidences before this outbreak being in 1919, 1924, and 1932. Previous outbreaks in the United States have happened in winter or early spring, as is usual elsewhere, whereas the peak was reached this year in St. Louis county in the week ending Sept. 2nd and in the city a fortnight later. The majority of the cases and those with the highest case-fatality were in persons of 35 years and upwards; no special relation to race or sex was noted except the usual preponderance of males in the age-group under 15.

The clinical features of the St. Louis outbreak have been looked upon as somewhat anomalous in that ophthalmoplegia, ptosis, and strabismus were uncommon, while demonstrable meningeal involvement was practically constant in the recognisable cases. But since 1918, when involvement of the third nerve nucleus was almost the rule, the disease has shown a tendency to affect the whole brain and its symptomatology has been protean. The lesions in the American outbreak are those of encephalitis without special localisation in the basal ganglions and brain stem, resembling in this respect the Japanese epidemics of 1924 and 1927 which, like the outbreak this year in the Riukiu Islands, occurred during the summer months. There seems as yet no sufficient ground for regarding this as a new type of the disease, although its possibility has been suggested. Febrile onset, mental apathy (rather than pronounced somnolence), and delirium are no new features of the disease. Recovery when it has ensued has been as a rule prompt and apparently complete. An epidemiological feature which confirms the infective nature of the disease is the occurrence of connected cases and cases in the same family nearly as frequently as would be expected in an epidemic of poliomyelitis of like intensity and distribution. The United States is a vast country and considerable exaltation of the virus must have prevailed to produce an epidemic of this magnitude.

The epidemic has afforded a wealth of morbid material of which the skilled investigators of the United States public health service have taken full advantage. It will be recalled that in the localised but severe institutional outbreak that occurred at Derby in 1919, McIntosh and Turnbull succeeded in reproducing the disease in a monkey. Surgeon-General Cumming tells us that six monkeys inoculated with material from five different patients dying in St. Louis of encephalitis have shown fever beginning on the 8th to 14th day after inoculation. Coincident with the rise of temperature, tremors, incoördination, and weakness appeared. In three of these animals, submitted to pathological examination, the central nervous system showed lesions consistent with the picture found in human epidemic encephalitis. Reinoculation of material from these monkeys is continuing, but time must elapse before it can be stated that the human disease has been established in animals. It is now being maintained in the third generation.

CHEMOTHERAPY IN THE PREVENTION OF MALARIA

SANITARIANS in India and Malaya are showing much interest in experiments on the chemoprophylaxis of malaria as an alternative to the laborious and expensive anti-mosquito measures so far employed. The protagonists of the mosquito school, with long-sustained and weighty arguments, are still advancing their claims in the face of criticism, but in many districts the economic crisis, and especially the disastrous fall in the price of rubber and tin, has led to a trial of the cheaper and apparently the more economical method of prevention with drugs. Dr. R. B. Wallace,[1] who presents good reasons in its favour, has compared the results obtained in groups of labourers in four different divisions of a rubber estate. The coolies were all given an initial intensive

[1] THE LANCET, Oct. 7th, p. 811, and Oct. 21st, p. 931.

[1] Malayan Med. Jour., September, 1933, p. 145.

treatment with Quinoplasmine—3 tablets daily for 14 days—in order to sterilise their blood. Thereafter one division, with a population of about 280 Indians, received 0·01 g. of Plasmoquine every third day; a second group, of about 330 Indians, was treated with two tablets of plasmoquine compound (i.e., 0·02 g. plasmoquine with grs. 4 quinine sulphate) twice weekly; while a third group of approximately the same numbers, was given 0·02 g. plasmoquine daily. At the same time antimalarial measures were carried out in these three areas. A fourth division, comprising some 330 people living in an area that had received no larvicidal treatment, was also given 0·02 g. pure plasmoquine daily. The experiments were carried out during the malaria season and extended over a period of five and a half months, and the result observed was that the malaria rates remained low on all the divisions. Although the rates were highest in the fourth, unoiled, area, the dose of 0·2 g. plasmoquine daily seemed to be successful in preventing malaria during the period of its administration, and this is noteworthy considering that the breeding-places of the chief vector were more numerous there than on all the other divisions put together. The cost of treatment on the second division, where the results were most successful, was approximately $1 per head per month—which is much less than the cost of antilarval measures and hospitalisation of cases.

Wallace's paper is supplemented by a carefully tabulated study by Dr. B. Barrowman [2] whose conclusions are not quite the same. Barrowman holds that in hyperendemic malarial districts in Malaya no method of chemoprophylaxis is at present available which can be considered as an alternative to anti-mosquito measures for the protection of a population exceeding 80; with a small and isolated community, however, the incidence of clinical malaria may be controlled, either by daily mass administration of quinine, or by intermittent mass administration of plasmoquine combined with quinine. The cost of the latter remedy works out at about a quarter that of quinine; moreover, the treatment of patients with quinine merely until symptoms disappear is useless as a means of effecting a permanent cure, or as a sanitary measure. Comparing three months' treatment with quinine and three weeks' treatment with quinine plus plasmoquine, the latter is found to be 40 per cent. more effective in curing benign tertian infections, but nearly 60 per cent. less effective for subtertian infections. Its cost is about two-thirds. Atebrin he regards as less effective than quinine in rapidly removing the clinical symptoms of malaria, but its effects are more lasting, and are obtained at about a third of the price. In both benign tertian and subtertian infections, a combination of atebrin and plasmoquine gives by far the greatest proportion of permanent cures.

THE HEARING POWER OF SCHOOL-CHILDREN

THE need of attempting to detect at an early stage hearing defects which, passing unrecognised, can be the cause of much disability in after life was urged by Dr. G. P. Crowden at a meeting of the section of otology of the Royal Society of Medicine on Dec. 1st. His thesis that a significant part of national health and efficiency is involved in the hearing power of the child is hardly to be disputed; even slight impairment undoubtedly leads to gross waste of educational opportunity. Inquiry as to the prevalence of ear defect has revealed a striking variation in the percentage incidence reported by school clinics, and the only explanation of this wide disparity seems to be a great difference in the capacity of testers. Unless tests are done carefully and accurately the resulting statistics must be unreliable. Dr. Crowden pointed out that the Bell Telephone Company has, at its own expense, helped the medical profession greatly by producing a reliable audiometer which is now being effectively used. One of these gramophone audiometers, which contain no battery but a magnetic pick-up, can operate 40 single-ear telephones linked up by wires; for testing purposes the wearers of the phones are required to mark down on cards all the numbers they hear called out from the gramophone, the intensity of the sound produced being gradually faded out. Some 30 members of the section tested the method during the meeting. For very young children the names of animals are substituted for numbers and are correlated with ingenious sets of small pictures. The audiometer, as Dr. Crowden claims, is valuable in three ways: (1) primarily as a detector of deafness; (2) to determine the degree of defect; and (3) to determine the value of hearing aids. The organisation of regular audiometer work has only recently been undertaken by the L.C.C., and no statistics are yet available, but Dr. A. Wells was already in a position to state, in the course of the discussion before the section, that the bulk of the children shown by the audiometer to have defective hearing bear no record of defect on their school clinic card; many children who failed on two tests were examined clinically and treated, and when tested later showed marked improvement.

The increasing use of audiometers seems to have revived a general interest in achieving greater precision in older methods of testing and greater efficiency of hearing aids. At the same meeting Sir James Dundas-Grant described a simplified method of determining the percentage of actual hearing power in tuning-fork tests, and a simple optical method of observing directly the decrement in amplitude. Mr. Alexander Tweedie referred to the activities of an institute for the deaf in Nottingham where demonstrations of aids for hearing were held several times a year. People who attended these were supplied with printed slips pointing out that aids were divisible into two groups: (1) some form of collector—e.g., the ordinary ear-trumpet; and (2) electrical appliances, based on the simple telephone and consisting of a microphone, telephone receiver, and a small dry battery. Additional information supplied was that usually collectors were more useful than electric aids; that only the patient could decide the value of any aid to him, and that no aid should be bought without being given a two weeks' trial.

THE WHOLESOMENESS OF LIGHT BEER

FROM the Institute of Hygiene in the University of Halle comes a timely communication on the hygienic aspect of malt liquor as a beverage. Prof. Paul Schmidt regards prohibition of alcoholic beverages as impossible in Germany as elsewhere—which does not trouble him, as he believes there is no better means of preventing alcoholism than a light wholesome beer. But he is quite clear that it must be both light and wholesome; that is to say, the alcoholic content must be low and the fermentation nearly completed in the process of manufacture so that there is little left to be done in the human alimentary canal. He accepts the Widmark limit of 1·4 per mille of alcohol in the blood for safety on the road, and remarks that the consumption of anything like 4 oz. of (absolute) alcohol in an evening must inevitably overstep this limit. He would himself put the amount of pure alcohol that can safely be

[2] Malayan Med. Jour., September, 1933, p. 163.

taken well diluted within a period of two to three hours on a full stomach by a healthy non-habituated man as about 1 oz. This quantity of alcohol he says is contained in various current brands of German beer as follows: three-quarters of a litre of Export beer (4 per cent. of alcohol by weight); one litre of light Munich or Bohemian draught beer (2·8 to 3 per cent.); one litre of Berlin white beer (2·5 per cent.). All these quantities are apt to be exceeded when the stronger export beer is the beverage. It is, he thinks, no good to encourage the export beer fans to drink the lighter top-fermentation beer, on account of its high acidity; but he does recommend the bottom-fermentation Lager beers with their very low acid content, and he would like the excise to sanction a gravity lower than 1045° for the wort in producing such a beverage as the 3·2 per cent. beer standardised in the U.S.A. when prohibition was abandoned. This action Prof. Schmidt regards as a hygienic deed of great significance, and the evidence satisfies him that the U.S.A. 3·2 per cent. beer is both tasty and wholesome. But he will have nothing of the claim made for beer of being a valuable food. To use beer for food, he writes, would be a criminal squandering of the German commonwealth. The description of beer for propaganda purposes as "fluid bread," may, he remarks, be regarded scientifically as done with. Even the content of dextrin, which has in Germany been vaunted as of nutritive value in beer, is not well borne by many people and is especially unsuited for older consumers. He would like to see the fermentation of the wort pushed so far as to reduce fermentation in the gut to the utmost, which he regards as the virtue of beer of the Pilsener type. But in Germany it appears that the women prefer a beer containing more extract at the expense of the alcohol. Prof. Schmidt's conclusion is that the alcohol content of the light beer which he is advocating should not be higher than 3 per cent. and that the extractives should be not higher than 5 or lower than 4 per cent. An alcohol content higher than 4 per cent. he regards as a risk to health and an unjustifiable waste of national resources; but he would not do away with the stronger beers, he would simply increase the duty on them. No one should drink beer on an empty stomach, and the drinker should use a small glass. He calls on the licensing authorities and the German brewing industry to coöperate in the production of such a light bottom-fermentation beer as he describes.

CLEFT PALATE

An essential for normal speech-production is the speaker's ability to shut off the nasal from the oral cavities. The valve which opens and closes the passage of communication between nose and mouth consists of the soft palate anteriorly, and the wall of the pharynx laterally and posteriorly. On the wall of the pharynx at the level of the soft palate a ridge (the ridge of Passavant) comes into play when the valve closes; it helps to make an air-tight junction between the soft palate and the posterior pharyngeal wall. In patients suffering from cleft palate the valve is hopelessly out of action. The dysfunction can be remedied by suture of the hard and soft palates and by speech training, but if, after suture, the soft palate remains short and tight, apposition between the soft palate and the posterior pharyngeal wall becomes an impossibility and speech *may* suffer. In these cases some form of pharyngoplasty to produce stenosis of the pharynx at the level of the soft palate, together with the reconstruction of Passavant's fold, as prescribed by Mr. W. E. M. Wardill, or the formation of an artificial septum between the uvula and the posterior pharyngeal wall as practised by Precechtel, may increase the competence of the valve and the clarity of the diction. Wardill's pharyngoplasty, described in a Hunterian lecture lately published,[1] aims at reformation of the palatopharyngeal valve. It consists of an incision made in the posterior pharyngeal wall down to, but not through, the buccopharyngeal membrane in a transverse direction at the level of the soft palate, which is subsequently sutured longitudinally; by this means the cavity of the nasopharynx is narrowed, and the salpingopharyngeal muscles which should be included in the sutures are brought at nearly as is possible into apposition in the midline. This procedure is not without the danger of septic complications, and in Wardill's hands carries a mortality of about 4 per cent. Its success should be judged by the diction following a course of speech-training, but even with a good anatomical result the function may not necessarily be improved. For example, in one of Wardill's cases: "the operation resulted in a perfect palatopharyngeal mechanism which complied with all the tests. . . . I did not see her till some months after. . . . I was amazed to find she had become one of the worst cleft palate speakers I have ever heard." Of the last 55 patients with cleft palate on whom Wardill has operated 13 speak normally, 6 speak badly, 19 have competent valves, and 17 are too young to ascertain the end-result. To obtain 13 patients with perfect diction in 38 consecutive cases is no mean success. If, however, an unselected series of patients with cleft palates are operated upon at an early age, according to the method of H. Round,[2] Victor Veau,[3] David Levi [4] and others, and if these patients subsequently attend a speech-training centre, good results may be expected. Among the failures there would be some cases in which pharyngoplasty might possibly improve speech-production; it would give them a good palatopharyngeal valve. But how many of them, and which among them, would recover perfect diction we are not at present able to foretell.

Before the section of odontology of the Royal Society of Medicine on Nov. 27th, Miss Freda Parsons demonstrated clearly that good functional results are not entirely dependent upon good anatomical closure of the cleft. She showed that, by training, a perfect functional result could be obtained in a child, despite a poor anatomical result, such as a short soft palate and a wide nasopharynx. The child could pronounce the S's, K's, and P's, and was as adept at blowing up balloons as normal children are.

WILLAN AND BATEMAN

The famous dermatologist Robert Willan, and his almost equally well-known assistant and successor, Thomas Bateman, are the subject of three essays in the October issue of the *British Journal of Dermatology and Syphilis*, and for many reasons these pioneers in medical science and state medicine deserve to be recalled to our memory. Dr. Henry MacCormac writes on the connexion of Willan and Bateman with the Public Dispensary, established round about 1790 in Carey-street, now the site of the Bankruptcy Court, and still apparently having a direct descendant in Drury Lane. Here Dr. MacCormac obtained unexpected access to a minute book (the second not the

[1] Brit. Jour. Surg., October, 1933, p. 347.
[2] Brit. Med. Jour., 1927, i., 15.
[3] Division Palatine, Paris, 1931.
[4] THE LANCET, 1933, i., 515.

first) covering the period from 1796 to 1828, and the incidents in the life of the Dispensary which became the parent body of the fever hospitals of London, make interesting reading to-day. Willan was evidently a great general physician and the same may be said of Bateman who followed him step by step and who owed his promotions to the patronage of his senior. The former obviously deserves a place among the great clinicians of his day, and the learning, which enabled him to be the father of British dermatology, arose from his study at the Public Dispensary of skin diseases in association with infectious fevers, which were much more prevalent and severe a hundred years ago than at the present time. Dr. J. D. Rolleston writes with special reference to the work done jointly by Willan and Bateman in relation to infectious fevers and records the words of that high authority Dr. J. F. Payne "that Willan's signal services to the science of medicine would have been less thoroughly appreciated than they are without Bateman's exposition of them. Willan, in the "Reports on Diseases in London," recommended that "houses of recovery" in connexion with the spread of contagious disease among the poor and in insanitary localities should be established in open airy situations. Dr. H. D. Haldin-Davis closes the little series with some "Personal Relics of Robert Willan," being a paper read at the recent annual meeting of the British Association of Dermatology and Syphilis in London. The paper is illustrated by a silhouette of Willan in the possession of the Medical Society of London, and both Dr. Haldin-Davis and Dr. Rolleston give pictures of Willan's tombstone, now erected on a wall in a cemetery in Madeira. The three essays compose together an instructive picture, and furnish once again an example of how far our predecessors could go in the pursuit of accurate clinical medicine without our advantages, derived from an infinitely increased knowledge of ætiology and the possession of a vast armamentarium. Willan and Bateman deserve recall to our memory.

ADENOMATA OF THE PITUITARY GLAND

THE neurological surgeon and the special pathologist afford a good example of symbiosis in the medical world. Supplied with material by three such surgeons, G. Roussy and C. Oberling [1] have reviewed our knowledge of the histology of the pituitary adenomata and add the results of their own observations on a series of 41 specimens. It is not clear, however, what proportion of this series was of surgical origin; two of the specimens figured in the text are obviously taken from necropsy material. The authors state, moreover, that in the systematic examination of pituitary glands recovered at necropsy they have found microscopic adenomatous foci in about 10 per cent. of cases. Further information concerning the total number of cases examined and the method used in handling the glands would have made this statement valuable. Unless serial sections are made and a reasonably large number of glands are examined, any estimate of this kind is of little value. The incidence of these chance adenomata in necropsy material is certainly a problem that demands attention.

The results of their examination substantiate the findings of Norman Dott and Percival Bailey (1925) and of others who divide the pituitary adenomata into *chromophobe* (agranular), *chromophil* (acidophil and basophil), and *mixed* types. Dott and Bailey further subdivided their mixed type into three varieties: (1) with cells resembling those of the acidophil adenoma but with no granules or a few scattered granules only; (2) with cells resembling those of the chromophobe adenoma but with a ring of acidophil granules in the periphery of each cell; and (3) with cells of the chromophobe type but with faintly acidophil granules. The first of these three varieties corresponds pretty well to the transitional cell adenoma of Kraus, the cells of which have a voluminous cytoplasm like those of the chromophil cells but are devoid of granules. Roussy and Oberling distinguish four varieties of chromophobe adenoma: (1) adenoma of clear cells, which alone perhaps merits the epithet "chromophobe"; (2) adenoma of pregnancy cells, composed of large cells with acidophil cytoplasm bearing some resemblance to the so-called pregnancy cells (it may be added that the authors relate the pregnancy cell to the chief, or chromophobe cell, and herein differ from Erdheim and many other authorities, who regard it as a variety of the acidophil cell); and (3) adenoma of small chief cells, with clearly basophil cytoplasm. To these they add (4) the fœtal cell adenoma of Kraus, which is composed of cylindrical cells with dark cytoplasm and fusiform nuclei and arises in the lateral parts of the anterior lobe. They have identified one adenoma of the last-named type; it is evidently a chance histological finding.

Although in general agranular the cytoplasm in these tumours varies greatly in tinctorial properties. For this reason Roussy and Oberling would rather use the term "agranulocytic adenoma" or "adenoma of non-granular cells" to comprise their four types. They find that the sex distribution in their series is fairly equal, and that all ages from 16 to 62 years are represented, though only a few are over 45 years. Like many other observers, they also find that by far the greatest proportion of the surgical material is made up of the chromophobe types. But some investigators, notably those who are chiefly concerned with necropsy material, have asserted that the chromophil types are the more numerous, at any rate amongst the small adenomata. This may be explained by two alternative hypotheses: either the chromophobe types are more prone to grow to a large size than the chromophil, or else in the process of growth an adenoma that is primarily chromophil loses its differentiation and becomes chromophobe. Roussy and Oberling add little to what is already known of the chromophil types. It is interesting, however, that they figure a basophil adenoma which was accidentally found with the microscope; they are not able to state whether this was associated clinically with any of the features of Cushing's syndrome.

Malignancy is difficult to assess in these tumours. It is clear, however, that in rare instances they can be disseminated to other parts of the body, while others are of local malignancy only and infiltrate the adjacent parts of the brain. Many of them remain circumscribed and are obviously benign.

[1] The opening scientific paper of a special number (Nov. 18th, 1933) of the Presse Médicale, issued in celebration of the fortieth anniversary of its foundation. The issue is beautifully produced and freely illustrated in colour. The Presse Médicale is published by Masson et Cie, 120, Boulevard Saint-Germain, Paris, VIe.

DONATIONS AND BEQUESTS.—The late Sir Arthur Mayo Robson left estate of the gross value of £101,401, with net personalty £66,231. He bequeathed £100 to the Leeds and West Riding Medical Charitable Society; £100 to the Fellowship of Medicine, Wimpole-street, W.; £1000 to the General Infirmary, Leeds, to endow an annual prize in surgery; and £200 to the Medical Department of the Leeds University towards the endowment of the Old Students Centenary Fellowship or, in the event of the £3500 required being fully subscribed, the bequest to form the nucleus for the endowment of a second Fellowship.

THE PREVENTIVE ASPECTS OF MEDICINE

A Series of Lectures in progress during the Winter Session at King's College Hospital Medical School

VIII.—DIET AND DIETARIES

THE idea of preventing actual disease and anticipating possible conditions of ill-health by the regulation of diet has not progressed very far or penetrated profoundly the kitchen and the food-store. The scientific knowledge of dietetics, which has been built up on a sound basis, has made little impression as yet on the eating habits of our population. How many medical men, trained in physiology and chemistry and in the theoretical knowledge of foodstuffs, of calories, and of vitamins, apply this in any conscious way to their own habits of eating? You are faced at regular mealtimes with, I suppose, adequate quantities of food of variable quality and taste and apply yourselves to its consumption with little conscious judgment of your eating except qualitative and quantitative satisfaction within the means of your pocket. In other words, you eat all you want of what tastes best. You will learn, at least by the age of 40, that certain foods and drinks disagree with you from their intrinsic qualities and that either an excess or real deficiency in total intake will make you unfit.

When you enter practice you find that alimentary disturbances, minor and major, are overwhelmingly common, and also nutritional deviations from the normal, so that a large group are either too fat or too thin, or think they are. You are asked questions, sensible and foolish, which would require thousands of pages to answer. In one lecture detail is impossible, and Dr. McCance, who delivers the next lecture on diet, and myself, will neglect most of it in favour of a few general principles. These you may have heard already in other guise, but they probably need and certainly bear repetition.

You have been taught that an adequate diet, chemically considered, contains a sufficiency of calories in the form of carbohydrate, protein, and fat, and also adequate amounts of water, salts, and vitamins. Dr. McCance will deal with the last three and I shall confine myself to the quantitative and calorific aspects and try to translate the chemical requirements into terms of eating habits, and to show how appetite controls them and how neglect leads to disease. Few of the public know anything real or fundamental of the intrinsic value of different foods, although many mothers are aware of the importance of vitamins, especially in infant nutrition.

Calorific Requirements

A fundamental and true principle is the balance between calorific intake and expenditure. Both can be measured and it is certain that sooner or later a preponderance of one over the other leads to any increase or decrease in weight. The weight is therefore the important index of a proper balance between an adequate diet and the requirements of activity, and any departure from the patient's normal weight merits attention in consideration of the early developments of disease.

As regards scientific measurement, you are aware that the calorie is the unit of interchangeable heat and energy in terms of which we talk, both about the intake and output. As regards the former, it is known that carbohydrate and protein both provide 4 calories for every gramme eaten and metabolised in the body, whereas fat is, weight for weight, more nourishing and produces 9 calories. The intake varies greatly in adult individuals, but in this country varies between 2500 and 3500 calories and is provided by 300–500 grammes of carbohydrate and some 100 grammes each of protein and fat. It matters very little to the normal body how the total necessary calories are provided; it can use them as fuel in any form. But it is essential that sufficient protein must be supplied to replace the waste and body use of nitrogen compounds.

In adults 1 gramme of protein per kilogramme (2 lb.) of body-weight completely satisfies this requirement, and ½ gramme may maintain nitrogenous equilibrium if an abundance of other foodstuffs is available. In a growing child much more protein is required for fully satisfactory development, and it is important to know and remember that the boy of 10 to 16 requires far more meat than his father. Another indication of the importance of protein in growth is given by the varying protein content of mammals' milk. The quicker the animal's growth the higher the percentage of protein in the milk of that species.

Unfortunately protein is the most expensive form of food, and it is certain that many growing boys and girls in the lower classes do not get enough of it to satisfy fully their requirement. Carbohydrate is the cheapest kind of food, and, as we would expect, provides the bulk of calories in the form of bread, potatoes, rice, and sugar. The animal forms of fat, butter and suet, are expensive, but such products as margarine are practically no more expensive than the carbohydrates. One pennyworth of bread provides 900 calories; of margarine, 700 calories.

As regards a person's output of calories, this has been and can be carefully measured by direct and indirect calorimetry, and in any person it is found to correspond closely with the calorific intake—namely, some 2500 to 3500 calories per day. But this output depends on, and varies enormously with, the activity and size of the individual. Canadian lumbermen have been found to expend and eat 5000–6000 calories a day, whereas an invalid in bed may use only 1500. Size and weight must also be considered, for it is obvious that a man of 16 st. needs twice as many calories as a woman of 8 st. The best way to think and talk about calories, in considering whether a diet contains too many or too little, is to express them as so many calories per kilogramme of body-weight, which at once introduces uniformity for different individuals. Expressed in this way it is known that a normal man uses 25 calories per kilogramme in the resting condition (basal metabolism): 30–35 when leading a sedentary life, and 40 to 60—or even more—when leading a life of great physical activity.

Body-weight as a Health Indication

Weight is a most important indication of health, and a change in either direction a most important early indication of disease. The constancy of weight, varying only within a pound over a period of years, is remarkable in many adults, especially men, and is a sign of good health. It is remarkable how such constancy is maintained for years without conscious effort, because it means that the intake of calories is very exactly balanced to meet the output. When this balance is disturbed all persons inevitably gain or lose weight, and it is well to remember that *all* weight changes are essentially dependent on such factors.

Apart from factors affecting the balance between intake and output, which we shall consider soon, a change from a constant weight must be suspected as indicating some disease. Most people do not weigh themselves often enough—in my view everyone should weigh himself at least once a year—and cannot aid their doctor by any exact memory of their previous weights. Others make an unnecessary fetish of their weight and gloat or despond every morning over a gain or loss of a few ounces, which is quite without significance, for unless carried out under strictly standard conditions variations of less than half a pound mean nothing. It seems hardly necessary to point out (though most people do not realise it) that a full bladder contains quite one pound of urine, and that hearty eaters may have gained five or even more pounds at the end of a meal.

Apart then from changes in diet or habits, a loss of weight requires thorough investigation, as it may be based on such serious disease as tubercle, cancer, or diabetes, and be the first sign which leads to their discovery. On the other hand, a gain in weight may be found in the earliest stage of myxœdema or diabetes, or be a precursor to an obscure endocrine disorder. Gain in weight and obesity generally presents many obscure and subtle problems, much more difficult to solve than loss of weight. At a certain time in middle age, many people put on weight independent of observable change in their habits. This is particularly common in women, and it is a curious fact how often their obesity can definitely be dated to a pregnancy. No doubt this is due to a complex endocrine disturbance, as are the obesities which start at the menopause; but they are not fully understood and seem partly to defy the law of the conservation of matter, as these patients conserve their fat to a pathological extent, even although it may be partially reduced by diet restriction.

Factors Controlling Nutritional Balance

It is not my intention to deal with social factors in any full or economic sense except as far as they immediately reflect on the individual as over- or under-fed. It is certain that in the far and even recent past few persons were subjected to the temptations of, and to diseases begotten by, an excess of food. Primitive man or his ancestors, in whom our digestive and metabolic mechanisms were evolved, could never have been for long in conditions of overnutrition. In the short period (some 10,000 years) over which some details of the social habits of mankind are known to us it is equally certain that only a small proportion of men, and these of the ruling classes, could have had as much food as they wanted or more than they needed. It is therefore probable that the human machine was attuned to its best health on the absence of a surfeit of food, and certainly modern life assurance statistics bear out the unhealthy effect on age and fitness of an excess of fat and body-weight.

Under present-day conditions in this country, in spite of the economic slump, acute total undernutrition is probably rarer than ever before, and a smaller section of our population is actually suffering from lack of total calories, though this does occur in individuals and small groups of our people. Apart from actual undernutrition, the quality of the food is of great importance; excessive chemical treatment of foodstuffs and the high proportion of cheap soft carbohydrate foods and the certain deficiency of vitamins and roughage in the diet of many of the "lower classes" is disturbing. I shall not go into such questions here, but would like to dwell a little, if I may, on the question of how a man eats what he does when plenty or superabundance of food is available, and when only appetite or hunger are his guiding factors. After all, the majority of us are ruled by these two sensations, and nothing else, in our eating habits. Nature, to use that word, put them there as compelling instincts and probably nothing is more vital in dietetics than an understanding of them. Pathological conditions occur in which perversions of these instincts, hunger pains, bulimia, and so forth appear and are mentioned only in a brief line in most text-books. Physiological studies of appetite and hunger and gastric movements are, it is true, to be found in isolated articles; these I have not attempted to pursue in compiling this lecture and what ideas I venture to bring before you are the outcome of my own impressions.

APPETITE AND HUNGER

You have all felt appetite, I hope before every meal, but probably many of you have never experienced hunger. There is a difference which I shall try to describe, having experienced them both. Normal appetite is the slightly expectant feeling when the usual mealtime approaches that food would be desirable. It is in most cases more a mental attitude than a physical necessity, although a slight emptiness in the epigastrium, associated with increased gastric tonus, may be felt. If attention is distracted, perhaps if a cigarette is smoked, these minor sensations may pass off and be entirely forgotten for some hours. Hunger is something different, more profound and lasting, deep rather than superficial, ravening and insistent, destroying all social codes. Let me illustrate what hunger is by two examples.

In starvation for several days, let us say after a siege of war or a wreck at sea, one may be reduced to such a stage of weakness that neither appetite nor hunger is felt. But, when one starts eating, real hunger develops and may be insatiable for several days. One may eat to the point of uncomfortable distension, and if one is not sick he may still feel hungry. In uncontrolled diabetes too, the largest meal may leave the patient quite unsatisfied and ravenous, with a hollow gnawing ache, although the stomach is distended. What is the explanation of these facts?

Sensations of appetite and hunger have commonly been attributed to and associated with the level of the concentration in the blood of sugar, the most obvious and direct nourishing substance in the blood. This theory is, in my opinion, undoubtedly true, and I think that the only time in which a normal person feels a healthy appetite is when his blood-sugar is at the low normal level for that person, some 80 to 90 mg. per 100 c.cm. The commonest cause of lack of appetite is overfeeding, and frequent meals at such close intervals that the blood-sugar hardly ever falls to a low normal for the individual. In countries where two or even one meal a day is the usual habit, lack of appetite seldom occurs, although subsequent indigestion may be met with owing to the excessive content and bulk of such infrequent meals. However, I am sure that the common cause of "indigestion and dyspepsia" in normal persons is overeating. This is a fact that has been especially noticeable to me in treating diabetics. In most cases of previous dyspepsia all symptoms of stomach trouble disappear when the total diet is restricted. However great the bulk of their meals may be, the patients find that they can eat anything without discomfort, even such indigestible foods as radishes

and roast pork leaving them unscathed. I do not know exactly if it is the restriction of carbohydrate or total calories that cures the dyspepsia, but both are worth trying in cases of chronic dyspepsia. The relation between blood-sugar and appetite is emphasised by the intense hunger that many patients experience when, following a mild overdose of insulin, the blood-sugar falls to hypoglycæmic levels.

But this is certainly not the whole truth, nor can appetite be entirely dependent on blood-sugar concentration. In severe diabetes the latter may be five times the normal, yet the largest meal may have no effect on a perpetual hunger. Certainly this great excess of blood-sugar is not available and does not nourish the patient; and it is on this reasoning that I have come to the conclusion that real hunger, both in starvation and in diabetes, is a metabolic thing. Whether or not a hormonal substance is set in circulation, the total body tissues cry for available food. In diabetes, this hunger is not satisfied, even in the first few days of insulin treatment with a large diet, until a considerable gain of weight begins to show that nutritional demands are being met. The same is apparent after a period of real starvation, where several days of full feeding are necessary before a normal appetite replaces hunger. Another disease of metabolism, hyperthyroidism, with its increased fuel consumption, offers further evidence in the same direction. With abundant intake of food and, if anything, a raised blood-sugar, the patient is perpetually hungry and eats enormously. I therefore hold that hunger is an urge of metabolic necessity, controlled by factors which are so far intangible. Appetite is less urgent, perhaps dependent on the effect of blood-sugar concentration, direct or through vagus centres, on gastric tonus, but in any case amenable to social habits and mental influence. Appetite we may influence, direct, and control; hunger has no place in a civilised community, undermines morale, and is ethically uncontrollable.

I do not attempt to consider here cases of real disease where appetite is decreased or augmented. Tuberculosis, cancer, the anæmias, Bright's disease, and bacterial toxæmias may cause the sight and thought of food to be a burden. Hence, like a loss of weight, lack of appetite may be the earliest sign of disease and should not be passed over lightly. Excessive hunger is also an abnormal symptom which cannot be neglected and has often a profound physical basis. Nervous distortions, mostly psychical, may have a considerable effect in both directions; their syndromes are dealt with in suitable text-books. A purely "nervous" disturbance of such fundamental appetites is grave and puzzling in the extreme.

ACTION OF NORMAL APPETITE IN CONTROLLING NUTRITIONAL BALANCE

Where no economic scarcity, personal or national, is present, and appetite alone is left to choose what the healthy person shall eat, it is interesting to see whether appetite acts as a true guide to healthy eating in modern life. I have studied eating perhaps more closely than most people, and I think the healthy dictates of appetite are followed in perhaps 90 per cent. of people. In most cases the amount of food eaten is automatically adjusted to meet varying calorific requirements. I have watched the sedentary professional man with a small appetite develop that of a lusty labourer when on a walking holiday. Such a fact must be familiar in your own experience, as must also be the distaste for foods of high calorific value like butter and fat in hot weather when they are not required. It is common to hear that nearly everybody eats too much, but I do not think this is correct, although it is probably true that most people could by eating less live at a lower nutritional level without noticing much, if any, diminution in energy.

Certain groups of people and many individuals undoubtedly neglect the healthy dictates of appetite and definitely overeat. The most noticeable group in this country are those who have never had enough to eat when young, usually through poor social conditions, and who carry on the habit of eating all they can when they reach affluence. *Punch* never draws a slim nouveau-riche. In many elderly people, too, with no great interest in life except food and possessions, natural appetite often atrophies and is replaced by greedy habits. Women, I think, are worse offenders in this respect than men.

Conclusion

I have touched on very few aspects in which diet enters into preventive medicine, but I believe that nothing is so important in keeping the individual and the population healthy as proper eating and nutrition. Yet hardly anyone, except those labelled as faddist, pays any attention to the subject or knows anything real about it. In a few directions progress has been made; our public health authorities ensure a supply of food at least fairly clean and pure, and our infant welfare centres apply and teach the new knowledge of infant dietetics with conspicuous improvement in the infant death-rate.

Elsewhere general knowledge of the simple scientific facts of dietetics is not even born. The legislators, we must conclude, know nothing of minimal diet requirements in their budgeting. And our citizens, when not depressed to minimal nutrition by their social positions, know nothing of regulating and controlling any possible economic choice to the best advantage. Not that the necessary education is difficult or dull. The subject could be understood by the boy of 14 and is certainly more interesting and important than the tributaries of the Great Ouse or the relative population of Liverpool and Manchester. It fills me with pity and horror when I see both the rich- and poor-sick wasting large or relatively large sums of money on patent foods which may cost five times as much and confer no greater benefit than a slice of bread or a bowl of beef-tea. All too often, if not invariably, when the general public are immediately or personally interested in diet, they become the prey of the skilfully devised commercial advertisement vaunting at high profit special properties in certain preparations which a moment's reflection based on their analyses shows entirely false. None of you, I hope, would be led to believe, for example, that any fluid extract of meat could either put beef into you or could specifically prevent disease, or that the drying and slight toasting of wheat could produce a breakfast food essentially different from toast as far as nutritive qualities are concerned, though the relative palatability is a matter of individual taste. It should be your concern, especially where the needs of your poorer patients are under discussion, to help them to plan their weekly food budget to the greatest advantage. Mostly this will involve the neglect of proprietary articles in favour of such homely foodstuffs as milk, bread, and butter. The public does not know and needs education. We have the advantage of an education in such matters and I hope are able to, and will, support the dissemination of truth and health in, and through, dietetics.

R. D. LAWRENCE, M.D. Aberd., F.R.C.P. Lond.
Junior Physician, Diabetic Department, King's College Hospital.

SPECIAL ARTICLES

GENERAL MEDICAL COUNCIL

WINTER SESSION, NOV. 28TH–DEC. 2ND, 1933

Penal Cases Reported by the Dental Board

IN accordance with custom, the Council deliberated on its findings in camera, strangers being readmitted to hear its decision.

The Case of James Alexander Randolph Allison, registered as of The Dampton, Kilbarchan, Renfrewshire, "Dentist 1921."

At the hearing before the Dental Board the following facts were established by the evidence: Allison went into various public-houses and told the person there that he had come out without his money, adding that if he was supplied with a bottle of whisky he would pay for it later. He gave a false name and address, and in no case was he supplied. Allison pleaded guilty, and said that since he had been in previous trouble he had been keeping off drink, and the present charge had been caused by a simple lapse. He was convicted.

The Dental Board therefore recommended that Mr. Allison's name be removed from the Dental Register, and, after consideration in camera, the President announced that the Registrar had been directed to erase the name from the Dental Register.

The Case of John Black Cochrane Fowler, registered as of 32, South Tay-street, Dundee, "Dentist 1921."

This case was reported to the Board by the Department of Health for Scotland, who, as the result of an inquiry held under the provisions of the National Health Insurance (Dental Benefit) Regulations, 1930, declared in pursuance of Article 46 (2) of the Regulations that the said John Black Cochrane Fowler was to be regarded as unsuitable for service in connexion with dental benefit as from Oct. 12th, 1933.

The evidence before the Dental Board established that Mr. Fowler had induced a patient to sign a dental letter whereby he obtained £3 6*s.* 3*d.* from the approved society for work which he had never carried out.

Mr. Fowler attended. Mr. Harper laid the facts before the Council and Mr. Fowler addressed it and answered questions. After deliberation in camera the President announced that the Registrar had been directed to erase Mr. Fowler's name from the Dental Register.

The Case of Allan Montgomery, registered as of 14, Sawmill-road, Partick, Glasgow, "Dentist 1921."

The evidence before the Dental Board had established that in two cases Mr. Montgomery had extracted teeth and supplied dentures, signing letters for the Scottish Co-operative Friendly Society and Scottish United Reform Approved Society. In both cases the dentures had been very unsatisfactory and had been returned for alteration, but the patients had subsequently been unable to recover them; nor had the societies been able to recover the moneys they had paid over.

Mr. Montgomery was not present. Mr. Harper addressed the Council and read a letter from Mr. Montgomery. The President, after deliberation in camera, announced that the Council had directed the Registrar to remove Mr. Montgomery's name from the Dental Register.

The Case of Donald Morrison, registered as of c/o R. L. Stewart, 86, Nethergate, Dundee, "Dentist 1921."

This case was reported to the Board by the Department of Health for Scotland, who, as the result of an inquiry held under the provisions of the National Health Insurance (Dental Benefit) Regulations, 1930, declared in pursuance of Article 46 (2) of the Regulations that the said Donald Morrison was to be regarded as unsuitable for service in connexion with dental benefit as from Oct. 4th, 1933.

The following facts had been established by the Dental Board: a member of the Scottish Professional Assistants' Society had received dental treatment from Mr. Morrison, but had been dissatisfied and had not had the work completed. Nevertheless the Society had received a dental letter purporting to be signed by the patient, who had not in fact signed it. Moreover, Mr. Morrison had been convicted at the Belfast Petty Sessions Court of being drunk, and at the Dundee Police-court of being disorderly.

Mr. Morrison was not present. Mr. Harper set out the facts and, after deliberation in camera, the President announced that Mr. Morrison's name would be erased from the Dental Register.

Penal Cases Adjourned from Previous Sessions

The Case of Aiden Joseph O'Sullivan, registered as of 59, Whetstone-lane, Birkenhead, Cheshire, L.A.H. Dub. 1919, who had been summoned to appear before the Council in November, 1932, as a result of two convictions for being drunk while in charge of a car. The facts alleged had been found proved, and judgment had been postponed for 12 months. Mr. O'Sullivan appeared in answer to his notice, bringing with him five testimonials from medical colleagues. He said that he was now a total abstainer. After deliberation in camera, the President announced that the Council had not seen fit to direct the erasure of Mr. O'Sullivan's name.

The Case of John Alexander Tolmie, registered as of 295, Anlaby-road, Hull, L.R.C.P. Edin. 1917, L.R.C.S. Edin. 1917, L.R.F.P.S. Glasg. 1917, who had been summoned to appear before the Council at the November Session 1932 for having been convicted on two charges of drunkenness and on several charges concerning motoring offences. The charges had been found proved, and judgment postponed for 12 months. Mr. Tolmie appeared accompanied by Mr. Thomas Carthew, counsel, instructed by Messrs. Le Brasseur and Oakley, solicitors, on behalf of the London and Counties Medical Protection Society. Mr. Carthew read testimonials affirming that the respondent's habits and conduct during the interval had been beyond reproach, and the Council decided not to order the respondent's name to be erased.

New Penal Cases

CONVICTIONS UNDER THE DANGEROUS DRUGS ACT

The Case of Frederick Richard Lanfear Miller, registered as of 53, Pembridge-villas, Notting Hill Gate, London, W.11, M.R.C.S. Eng. 1922, L.R.C.P. Lond. 1922, who had been summoned to appear before the Council on the following charge:—

"That you were convicted at the West London Police-court on Sept. 22nd, 1932, that being a person authorised to supply dangerous drugs, you failed to enter required particulars in a register or day book on June 15th, June 28th, and July 7th, 1932, and were fined £5 and 3 guineas costs. There were other convictions in 1933 of being in unlawful possession of morphine sulphate, for which a sentence of imprisonment in the second division had been incurred."

There was no complainant in this case. Mr. Miller attended in answer to his notice accompanied by Mr. Carthew, counsel, instructed by Messrs. Le Brasseur and Oakley, on behalf of the London and Counties Medical Protection Society.

Mr. C. J. S. Harper, solicitor to the Council, laid the facts before the Council. Mr. Miller, giving evidence

on his own behalf, stated that he had contracted severe dysentery during the war and had taken morphia on medical advice. This had started a habit. He had come back to England, set up in practice in London, and made determined efforts to cure himself. He had entered Bethlem Hospital, but after being demorphinised he had suffered from intractable insomnia; he had tried everything to avoid morphia, but had been driven back to it. He had been sent to prison not by way of punishment but in order to give him a chance to abandon his addiction under suitable treatment. Mr. Carthew pointed to Mr. Miller's great strength of character, and the efforts he was making to cure himself, and said that the doctor to whom he had sold his practice was willing to take him as a partner when he came out of prison, and that the prison medical officer gave a good prognosis. The Council decided not to order Mr. Miller's name to be erased but to suspend judgment for a year, subject to their usual provisos that before the end of that time the respondent should produce evidence of his good behaviour and the names of a number of his professional brethren who would be willing to give testimony on his behalf.

The Case of Gerald Douglas Newton, registered as of 15, Walker-terrace, Gateshead-on-Tyne, L.M.S.S.A. Lond. 1914, triple Scottish qualification 1915.

Mr. Newton appeared before the Council on the charge of having been convicted at the Gateshead Police-court on Sept. 25th, 1933, on three charges of unlawfully failing to keep a register and enter therein true particulars of various quantities of cocaine hydrochloride obtained by him, and on one charge of failing to preserve the register for two years after the date of the last entry. A fine of £20 and £12 costs had been inflicted.

Mr. Newton was not accompanied by a legal adviser. Mr. Harper laid before the Council a transcript of the evidence heard before the police-court; this showed that between August 4th, 1932, and Jan. 11th, 1933, Mr. Newton had purchased grs. 2372 of cocaine—an average of grs. 103 a week. His private practice consisted of 50 patients, his panel of 2400 patients, and his club practice of 150 families. Various chemists had testified that the quantities of cocaine purchased by the respondent were excessive for a practice of this size. Giving evidence in his defence, he had stated that he had used cocaine in cases where other doctors would use morphia: in skin complaints to relieve pain, in cancer, sciatica, lumbago, and synovitis of the knee. He regarded cocaine, used discreetly, as one of the most valuable of drugs, and the cost was trifling. He never used morphia. He had ascribed the failure to register the quantities in question to mislaying the book at the time of a heavy influenza epidemic, in which he had himself been unwell. Mr. Harper pointed out that the drug must have been used in one or more of three ways: in practice, personally, or in trafficking, and suggested that the circumstances threw suspicion on Mr. Newton of an improper use of it.

Mr. Newton, giving evidence on his own behalf, denied that he had ever used cocaine illegally or unprofessionally, either by taking it himself or by trafficking in it. His practice was larger than had been stated.

The President announced that the Council had found the convictions proved. These convictions, he said, showed that Mr. Newton had not duly apprehended his responsibilities as a medical man or the privileges conferred on medical men under the Dangerous Drugs Acts. The Warning Notice of the Council was quite clear: that contravention of the Acts or Regulations might lead to criminal proceedings and that a conviction might be dealt with by the Council. In the present case, however, the Council had not decided to direct the erasure of Mr. Newton's name from the Register, but trusted that the experience would be a lesson to him and that there would be no further police proceedings.

The Case of James Scott Webster, registered as of 31, Bank-road, Bootle, Liverpool, M.B., Ch.B. 1928, U. Edin., who appeared before the Council for having been convicted (1) before the West Ham Police-court for failing to enter a purchase of cocaine in the dangerous drugs register, being fined £5; and (2) before the Hull City Police-court on five charges of procuring cocaine and morphine without being duly authorised to do so, being fined £20 and £5 12*s.* 6*d.* costs. Mr. Harper laid the facts before the Council, and Mr. Webster, giving evidence on his own behalf, said that in 1929, at the time of his first conviction, there had been a heavy influenza epidemic during which he had had very little sleep and had been suffering from duodenal ulcer; he had foolishly taken drugs to alleviate the pain. After the conviction he had entered hospital and had come out cured, and so well that he had been appointed medical officer to a unit of the Royal Air Force at Wendover. He had, however, been apprehended by order of the Home Office and his appointment had been ended. His offence at that time—which had not been brought before the Council—was merely that of obtaining grs. 4½ of morphine pills for patients whom he had been treating as the partner of another medical man, whom he had not told that his authority had been withdrawn. He had been persecuted by anonymous letters, and had felt a grievance against the authorities. He had committed the offences at Hull in order to gain publicity, but now realised that he had behaved unwisely. He denied that he was an addict.

The Council postponed judgment for a year subject to the usual provisos.

CHARGES OF ABUSE OF POSITION

The Case of David West, registered as of 1, Raynham-road, Hammersmith, W.6, M.B., Ch.B. 1924, U.Aberd., who had been summoned to appear before the Council on the following charge:—

"That you abused your position as a medical man by misconducting yourself on numerous occasions from August, 1931, to January, 1933, with Mrs. A. B., who and whose husband and child were patients of yours, and that in relation to the facts so alleged you have been guilty of infamous conduct in a professional respect."

The complainant was the husband of Mrs. A. B.

Mr. West was not present in answer to his notice, but was represented by Mr. F. C. Sills, solicitor. Mr. Sills said that Mr. West was dangerously ill and that he himself had only been instructed the day before and was not in a position to represent Mr. West. He asked for an adjournment until the summer session. The Council, however, would not grant his application, and he withdrew from the case.

Mr. Harper informed the Council that Mrs. A. B. had first become acquainted with Mr. West in August, 1931, when he had attended her for some stomach trouble. In November he had attended her small son, who was suffering from whooping-cough. He had then suggested that she should have a series of injections for anæmia, calling at his surgery and being visited on alternate days. He had become friendly and sympathetic; he had suggested that Mr. A. B. must have another woman and that Mrs. A. B.

should play the same game. On one occasion when he had suggested intimacy she had slapped his face, but on another occasion intimacy had taken place and had been repeated frequently until the middle of January, 1933, when she had admitted the relationship to her husband. She had been admitted to St. Mary Abbott's Hospital just before this date and had had a miscarriage. Mr. A. B. and the sister of Mrs. A. B., corroborated this evidence.

The Council ordered the Registrar to erase Mr. West's name from the Medical Register.

The Case of Charles Frederick Searle, M.C., registered as of Nanyuki, B.E. Africa, M.R.C.S. Eng. 1909, L.R.C.P. Lond. 1909, B.Chir. 1909, M.B. 1910, D.P.H. 1916, M.D. 1919, U.Camb., who had been summoned to appear before the Council on the following charge :—

"That, being a registered medical practitioner, (*a*) you abused your position by enticing one Gwendoline Elsie Place, with whom you stood in professional relationship, and who was the wife of Johnnie Dover Place, to leave her husband's house and go away with you on July 11th, 1931, in respect of which on June 6th, 1932, at a trial before Mr. Justice Roche and a jury at Bury St. Edmunds, a verdict was given by the jury for the said Johnnie Dover Place with £500 damages, and judgment was duly entered by Mr. Justice Roche against you for that amount and costs; (*b*) you abused your position by eloping with the said Gwendoline Elsie Place in or about April, 1932, to Nanyuki, Kenya Colony, taking with you the only child of the Places', a girl of 9 years of age, and by now living with them there; and that in relation to the facts so alleged you have been guilty of infamous conduct in a professional respect."

The complainant was Mr. Johnnie Dover Place.

Mr. Searle was not present but was represented by Mr. Oswald Hempson, solicitor. The complainant was represented by Mr. Maurice O'Sullivan, counsel, instructed by Messrs. Peters, solicitors, of Cambridge. After deliberation in camera, the President announced that the Council had found the charges proved and had directed the Registrar to erase from the Register the name of Charles Frederick Searle.

CHARGE OF CANVASSING

The Case of Philip Henry, registered as of 6, Cavendish-place, W.1, L.R.C.P. Edin. 1926, L.R.C.S. Edin. 1926, L.R.F.P.S. Glasg. 1926, who had been summoned to appear before the Council on the following charge :—

"1. That, being a registered medical practitioner, you have advertised your dental practice for the purpose of obtaining patients by exhibiting on your premises at 26 High-street, Brentwood: (*a*) in the windows of the first floor rooms a large white card with the words 'Philip Henry, Dental Surgeon, has removed from No. 22 High-street'; (*b*) on one window in large gilt letters 'Philip Henry, L.R.C.P., L.R.C.S., L.R.F.P. & S.G., L.D.S., Dental Surgeon'; (*c*) on two other windows in large gilt letters 'Dental Surgery'; (*d*) in a fourth window a white card with your name and 'Dental Surgery' in large letters; (*e*) over the entrance 'Entrance to Surgery' in very large letters. And that in relation thereto you have been guilty of infamous conduct in a professional respect. 2. That, being a registered medical practitioner, you have canvassed for the purpose of obtaining patients in respect of the dental practice carried on by you at 26, High-street, Brentwood, and in particular (*a*) on or about June 26th, 1933, canvassed Mrs. Petchey by means of a letter addressed to her by you with the heading and address of Philip Johnson; (*b*) on or about July 17th, 1933, again canvassed Mrs. Petchey by means of a letter addressed to her by you and accompanying which was a card notifying your change of address and the opening of your new dental surgery; (*c*) on or about July 18th, 1933, canvassed Mr. Edhouse by means of a card similar to that referred to in (*b*) sent to him through the post; and canvassed nine named persons by sending them similar cards, all of whom were at some previous time patients of Mr. Philip Johnson, L.D.S., a former employer of yours whose practice at 22 High-street, Brentwood, had been purchased by Mr. Thomas Leslie Grayson, L.D.S.R.C.S. Eng. And that in relation thereto you have been guilty of infamous conduct in a professional respect."

The complainant was Mr. Thomas Leslie Grayson, L.D.S.R.C.S. Eng.

Mr. Philip Henry was present and was accompanied by Mr. Thomas Carthew, counsel, instructed by Mr. H. Lipton, solicitor. The complainant was Mr. Thomas Leslie Grayson, who was represented by Mr. Oswald Hempson, solicitor.

Mr. Hempson said that Mr. Henry had been assistant to Mr. Johnson, who had had two surgeries, one at 22, High-street, Brentwood, and another in the Mile End-road. Mr. Henry had taken duty on alternate days at each of the two surgeries and had been allowed to display a plate at Brentwood. There had been some negotiations for the purchase of the practice by Mr. Henry, but they had fallen through because he was unable to raise the necessary money. In May, 1933, Mr. Grayson had purchased the Brentwood practice of Mr. Johnson, and Mr. Johnson had given the usual assurances not to practise in the neighbourhood. Mr. Grayson was 26 years of age, and this was his first venture in practice by himself. He had entered into possession on June 1st. Shortly after he had started, his attention had been drawn to certain activities a few doors off—namely, at 26, High-street, Brentwood—and he had found that Mr. Henry had set up practice there as a dental surgeon. On August 28th, 1933, Mr. Henry had written to the Registrar of the General Medical Council suggesting that he might have some illuminated signs. He already had in the windows of the first floor a large white card with the words "Philip Henry, Dental Surgeon, has removed from No. 22, High Street." This suggested, said Mr. Hempson, that it had been Mr. Henry's practice at No. 22. On one window were large gilt letters saying: "Philip Henry, L.R.C.P., L.R.C.S., L.R.F.P. & S.G., L.D.S., Dental Surgeon"; and in three other windows the words "Dental Surgery" in large gilt letters or on a card. Over the entrance were more large letters saying "Entrance to Surgery." Further, Mr. Henry had had 100 notices of change of address printed, at the top left corner of which were the words, "79, Harley-street, W.1. Welbeck 7474." Notice of change of address to 26, High-street, Brentwood, followed, together with Mr. Henry's degrees and the words in brackets, "late Johnson and Henry of 22, High-street." This, said Mr. Hempson, was direct misrepresentation. The card continued that Mr. Henry desired to announce that he had opened a new surgery as Mr. Johnson had disposed of his practice. In addition to these cards there were two letters on the printed notepaper of Mr. Johnson, over which was written in Mr. Henry's handwriting "Dr. Philip Henry." In the first letter, sent to a Mrs. Petchey, a former patient of Mr. Johnson's, respondent had said he supposed she knew that Mr. Johnson had left the Brentwood surgery and that another young man had their former rooms, but that he would be opening a practice shortly; that, of course, she could change her dentist if she wished at any time, and that he would be pleased to be of service. This implied, said Mr. Hempson, that he had taken over Mr. Johnson's practice and that Mr. Grayson was a young interloper who had come into their former rooms. The second letter, dated July 17th, accompanied the change of address card and said that Mr. Grayson had told Mr. Henry that Mrs. Petchey had continued treatment with him;

that Mr. Henry would advise her to do so if she were satisfied, as Mr. Grayson had taken over Mr. Johnson's practice and he, Mr. Henry, had taken rooms a few doors off. These were merely examples of the conduct of Mr. Henry, and Mr. Hempson said he could not imagine a case more worthy of censure.

Mr. Grayson was called by Mr. Hempson and testified to his statutory declaration, confirming the facts as set out in Mr. Hempson's opening address. Mr. Henry, he said, had been employed as an assistant on a weekly salary, and had never had any interest as a partner at Brentwood or elsewhere. He himself had never employed Mr. Henry. He was satisfied that the people who had been approached by Mr. Henry were former patients of Mr. Johnson's.

Cross-examined by Mr Carthew, Mr. Grayson said that Mr. Henry had called on him in a semi-social way two or three times, and about the third week in June had told him that he had decided to start practice on his own in Brentwood. Mr. Henry had said that he wanted to write to some patients and later said that he had written. Mr. Grayson could not remember exactly what he had said, but he had objected. There had been in the hall-way of the old practice a card saying "Johnson and Henry, Dental Surgeons." He admitted that the words "Entrance to Surgery" were in letters of the same size as a former notice "Entrance to Flat," but he could not agree with Mr. Carthew's suggestion that the offending notice in the window had been removed directly he complained; he said he had complained repeatedly and it had been up for a considerable time.

Examined by Mr. Carthew, Mr. Henry said that he had decided to open a surgery in Brentwood about the third week in June. He paid £75 per annum for the surgery and about £150 on equipping it. He had told Mr. Grayson that he was going to write to some patients and Mr. Grayson had given his consent to this action. He had only sent out 30 cards but had had to have 100 printed because that was the minimum that the printer would do. He had only sent them, with one exception, to patients who had asked for his address and whom he had attended himself. When Mr. Grayson had objected to the big card respondent had first cut off the offending sentence "has removed from 22, High-street" and had then removed the card altogether. The notice "Entrance to Surgery" had been adapted from a former notice "Entrance to Flat," and so the size of the letters was not of his choosing. He had put 79, Harley-street on his change of address card because at that time he had been negotiating for a room there, but pressure of other duties had prevented him from starting work at that address.

Cross-examined by Mr. Hempson, Mr. Henry said that a number of change of address cards had been destroyed or soiled and that he had sent out about half a dozen to personal friends with no professional connexion. He maintained that all the patients to whom he had written were under his treatment at the time of writing. Mr. Hempson asked him whether their visits would be recorded on their record cards, and he agreed that that was so.

Re-examined by Mr. Hempson, the complainant said that he had made his objection clear to the respondent but had been unable to stop him. Respondent had cut off the bottom of the card bearing the words "has removed from No. 22, High-street, Brentwood."

Mr. Philip Johnson, examined by Mr. Carthew, said that he had had a practice at 22, High-street, Brentwood, and also in the Mile End-road. Dr. Henry had been his assistant in both practices, and had considered partnership, but had finally decided that he could not afford it. His plate had been displayed separately, and the two men had chiefly had their own separate patients. Dr. Henry had not been under any bond of restraint not to practise in the neighbourhood after terminating his engagement with the witness. Cross-examined, he said that he had paid for the card bearing the inscription "Johnson and Henry, Dental Surgeons"; it had been made with his consent but not at his suggestion. If Dr. Henry had been able to raise the money, witness would have given him an option to purchase. The first serious intimation the witness had had that respondent was starting to practise in Brentwood had been just before he had left for his holiday. He had objected most strongly, considering that to do so would be against professional ethics. In reply to a member of the Council, witness said that respondent had not been bound by restrictive covenant because the arrangement was a purely temporary one, intended to last only until the respondent purchased a practice or a partnership. All the people who had received circulars were his (Mr. Johnson's) patients. In reply to a question by the Legal Assessor Mr. Henry admitted that there had been a lapse of several weeks between the time when he had finished assisting Mr. Johnson and the time when he had started on his own. He repeated, however, that the treatment of all the patients concerned had been incomplete.

Mr. Hempson then produced cards of record, and asked what Mr. Henry meant by "in the course of treatment," saying that the Council might draw its own conclusions as to the meaning in the case of a patient who had last been seen in February. On another card were written the words "fin. March 15th, 1933," and the account had been paid on the following day. Mr. Henry, however, maintained that this patient also was in the course of treatment, and that "fin." only meant a temporary finish in that case. Mr. Henry said that he had not tried any other printer when the first printer refused to take an order for less than 100 cards, because it suited his purpose to get the work done locally. Mr. Henry maintained that his change of address card had suggested that Mr. Grayson had taken over the practice, and that he had mentioned Mr. Grayson's name in the letters he had written to Mrs. Petchey and others. When Mr. Hempson read the letter out in full, he agreed that it was unfortunate that there was no mention of Mr. Grayson's name in it. He declared that Mr. Grayson had known from the first that there was a distinct possibility that he might set up in the neighbourhood, but he also said that at the time when Mr. Grayson bought the practice he had had no idea of setting up, but had subsequently been induced to do so by friends. He had settled so near to Mr. Grayson because that was the only available flat. He agreed that he was under restriction not to practise within half a mile of the Marble Arch, and that this covered about a third of the lower end of Harley-street, but No. 79 was outside this radius. He did not know until two or three days after his cards were printed that he would not be going on with the Harley-street arrangement. In reply to Mr. H. L. Eason, he said that he was solely in dental practice but not on the Dental Register, as he had no particular desire to be. He knew that persons on the Dental Register were under certain restrictions as to the size of letters and signs which did not apply to persons on the Medical Register, but he had not given the matter much thought. In reply to the Legal Assessor he agreed that his letter had been badly expressed and undoubtedly misleading when he had put the

words "late of Johnson and Henry, of 22, High-street"; he had not been a partner at any time and could not have been.

In reply to Sir Robert Bolam, now presiding in the temporary absence of the President, he said that he was not familiar with the warning notice of the Dental Board.

Mr. Carthew, addressing the Council on Mr. Henry's behalf, stressed as a novel aspect of the case that what had been done had not been done behind the complainant's back. He described Mr. Henry as an intensely stupid young man. Mr. Hempson in his concluding address said that he did not wish to press the case unduly but he thought Mr. Henry's explanations had been totally inadequate and inconsistent in the extreme.

After deliberation the President announced that the Council had found the charges proved, that they considered Mr. Henry to have been guilty of infamous conduct in a professional respect, and that the Registrar had been directed to erase his name from the Register.

(To be concluded)

MEDICINE AND THE LAW

"Governing Facts" in the Nursing-home Appeal

IT was remarked in this column last week that the judgment in Powell *v.* Streatham Manor Nursing Home was of great legal interest, since the case was virtually an appeal upon facts. It was an appeal from a judge sitting without a jury. Order 59 of the Rules of the Supreme Court declares that such an appeal is a re-hearing. It has long been an established principle that the appellate tribunal will not overrule the trial judge on a question of fact when he has had the advantage of seeing the witnesses and observing their demeanour. There are nevertheless some observations of Lord Lindley which suggest that the Court of Appeal may differ from the trial judge "even on a question of fact turning on the credibility of witnesses whom the Court has not seen." The Court of Appeal may also interfere if they find, in a phrase of Lord Justice James, "some governing fact which in relation to others has created a wrong impression." The Master of the Rolls declared that Mrs. Powell's discredited allegation about the hernia was such a "governing fact." Lord Justice Slesser found two such "governing facts": one was "the complete unreliability, to put it no higher, of the plaintiff's own doctor who performed the operation"; the other was the fact that the trial judge, he thought, had not considered how in so many particulars Mrs. Powell's evidence on other matters disconnected with her operation was disproved by the contemporary reports made by the nurses. The Lord Justice found it incredible that Nurse A could have mistaken the urethra for the vagina, and could have been guilty of what was not only brutality and cruelty but actually also criminal assault. Lord Justice Romer said there was about Mrs. Powell's evidence a "glaring improbability" which induced him to decline to accept it. Needless to say, all three members of the court differed with reluctance from the conclusions of so careful and experienced a judge as Mr. Justice Horridge.

In the past the advisers of medical practitioners and others faced with allegations of professional negligence have been frankly anxious about the natural sympathy of a jury with an injured plaintiff. A plaintiff's case, skilfully opened, must make a strong impression upon the sentiments of jurors, and it is often hard for the defence to focus the jury's attention upon nice shades of legal liability. At the moment British justice in civil cases is swinging away from the use of juries. A jury trial takes much longer than a non-jury trial and is therefore more expensive both to the country and to the litigants. A judge who has to decide issues of fact single-handed, however, is occasionally in difficulty for want of a jury to take the responsibility of decision. It is possible that he is aware of the difference between the view he himself takes of the facts and the view which he believes a jury would have taken. Be that as it may, if the Court of Appeal's judgment of last month is not upset, it is reassuring to professional men to find that an adverse decision on the facts in the court of first instance is not necessarily final. The Streatham Manor Nursing Home may be congratulated both on the vindication of its good name and on the excellent legal advice which secured the vitally important reconsideration of the evidence.

The Medicated Truth

The *Times* New York correspondent, in a message published on Nov. 25th, reported that the Chicago police claimed to have secured a confession in the Chicago surgery murder case by the use of a "lie-detector." The body of Mrs. Rheta Wynekoop, aged 22, is said to have been found on an operating-table in the house which she and her husband shared with her husband's mother, Dr. Alice Wynekoop. The husband and his mother are stated to have been subjected to all-night ordeals of questioning by the police, the "lie-detector" being apparently the use of scopolamin; as the result Dr. Alice Wynekoop is said to have confessed that she committed the murder. The method presumably relies upon the drug to lower the resistance and the reasoning power of the examinee; the patient is safely delivered of the truth in a condition of twilight sleep. American criminologists have had the method under consideration for many years (THE LANCET, 1922, ii., 1082, 1190). Five years ago we referred (1928, ii., 990) to a police investigation at Hawaii, where a suspect made a confession after a heavy injection of hyoscine hydrobromide. When the effect of the drug wore off he retracted his admissions and asserted his innocence as vigorously as before. While attempts were being made to drug him into a fresh confession the real murderer was fortunately discovered elsewhere. Our brief note on the case was reprinted in an Appendix to the report of the Royal Commission on Police Powers and Procedure. The Commission reported that there was no evidence that the use of "third degree" methods by our own police either existed or would be tolerated by the police themselves. Our judges are vigilant to exclude any statement by an accused person which is not genuinely voluntary. Thus the Court of Criminal Appeal lately quashed a conviction which had been obtained on evidence partly resulting from police inquiries. During these inquiries the police had said "we are policemen and we want to know"; the Court said this might have been construed as a threat, and the resultant statements were consequently not voluntary and therefore not admissible.

Evidence of Blood-groups at Murder Trial

Although research into the characteristics and classification of blood-groups has established certain conclusions, its results have not yet been of decisive value for the purpose of determining disputed matters in our courts of law. The limits of expert evidence in this field were shown by a recent murder trial at Manchester assizes (R. *v.* Loughnan). The accused was convicted of murdering his wife. Her body

had suffered severe injuries, five ribs having been broken. Blood-stains were found in her bedroom and in the room where the husband slept; there were also stains on his trousers. His defence was that he was asleep throughout the time when the injuries must have been inflicted; it was suggested that they might have been caused by the woman falling down stairs. Dr. G. Roche Lynch gave evidence that there were four distinct blood-groups. The dead woman's blood definitely belonged to group 4; the stains on her husband's trousers were also probably in group 4. Dr. Lynch could not be positive on the latter point, the tests being the less satisfactory because the clothes were very dirty. The blood-stains on the floor were proved to have been human blood, but not enough was available to determine the group. Cross-examined by the defendant's counsel, Dr. Lynch said about 42 per cent. of human beings came within group 4. He agreed that it was reasonably probable that the accused's own blood came within that group, but it was obviously impossible to answer this question definitely for want of knowing the group to which the man belonged. Presumably, if it had been possible to state with confidence that the blood-stains belonged to the husband's group and not to the wife's, the Crown would have disclosed the fact as an element telling in the accused's favour. In the circumstances the actual evidence of blood-groups had some small weight in corroborating the Crown case, but the jury could hardly pay much attention to it. The value of expert evidence in this respect is necessarily limited by the fact that an accused person cannot be compelled to submit to a blood test.

PARIS

(FROM OUR OWN CORRESPONDENT)

SYPHILIS IN FRANCE

THE Assises Nationales de l'Assemblée Française de Médecine Générale, in session on Nov. 5th at the Hôtel Dieu, dealt with the findings of the collective researches, conducted by general practitioners throughout France, into the frequency and certain other aspects of syphilis. These findings, epitomised by Dr. Godlewski, the secretary-general, show that during the first five years after the war there was a recrudescence of the disease. There followed a rather sudden decline in 1925 and 1926, maintained till 1929. At present a stationary phase has been reached, with a most striking difference in the incidence of the disease in town and country, the towns being the reservoir of the disease. The chancre has become rare. In women it is usually overlooked, and a rash is the first sign of their infection. General paralysis would seem to be as common as it was, whereas tabes has beome a much less serious problem, and the number of advanced cases of this condition has fallen almost to vanishing point. On the other hand the incidence of visceral lesions is high, and involvement of the aorta is most frequent. Remarkable unanimity of opinion was shown in the condemnation of clandestine prostitution as a most powerful factor in the genesis of syphilis; it was held responsible for about two-thirds of all the cases. Prostitution under official medical supervision was accounted a less serious source of new cases by speakers at this meeting, but there are many experts who regard the precautions taken against venereal disease in the conduct of regulated prostitution of doubtful value. There was support at the meeting for the abandonment of the term "hereditary syphilis" in favour of "congenital syphilis."

THE FRENCH TUBERCULOSIS SERVICE

In a foreword issued in advance of the third edition of the "Armement Antituberculeux Français," which will be published early in 1934, Prof. Léon Bernard and Dr. G. Poix give some statistical facts concerning the French tuberculosis service. There are at present only 75 specialists in tuberculosis attached to the 262 dispensaries scattered throughout 49 departments. The work is done in the other dispensaries by 53 medical officers of health and 500 general practitioners with no special knowledge of tuberculosis. Till recently it was difficult to staff these dispensaries with properly qualified nurses. Now, however, 23 different schools of nursing admit every year about 1000 probationers whose ambition is a State diploma, and the number of visiting nurses attached to the tuberculosis dispensaries is now over 1350. Experience has shown that it is well for these nurses to be general-trained, for if they are supposed to be concerned only with tuberculosis their visits may inflict an undesirable stigma on the families visited. Since the war 156 public and private sanatoriums have been provided with a total of 21,000 beds to which may be added 6700 beds belonging to hospital services in the towns.

ATTACKS BY IRRESPONSIBLE PATIENTS

A medical practitioner, writing recently in *Concours Médical*, asks if he cannot secure some material compensation for the damage inflicted on him by a pugilistic patient. A tired business man was being treated by him with a series of intramuscular injections; one had just been given by the doctor who was still holding a bottle of tincture of iodine, when he received a violent blow on the nose which made him fall backwards, freely splashed with iodine and with a double fracture of the bones of the nose. What damages could he claim? The admission which accompanied this question answers it. The doctor had promptly certified his patient as insane, signing an admission order himself and asking a colleague to provide a second certificate, and had thus effectively robbed himself of whatever vestige of a chance he might have had of a successful action for damages.

OVERCROWDING OF THE MEDICAL PROFESSION

Recent statistical returns show how greatly the ranks of the medical profession are becoming congested. In 1876 there were only 10,000 doctors, or an average of one to 3400 inhabitants. Now there are 36,000, a ratio of one to 1600. In Paris this ratio is as high as one to 630. The only French territory understaffed by doctors is French Africa, whose population of 45 millions is served by 786 doctors, 450 of whom are civilians.

AUSTRALASIA

(FROM OUR OWN CORRESPONDENT)

A VOLUNTARY INSURANCE SCHEME

SOME months ago the Government of Victoria appointed a committee to confer with the Cabinet on the urgent matter of maintaining the Melbourne metropolitan hospitals on the existing scale. Two of the chief problems are the increased use of public hospitals by those who are not fit subjects for charitable aid and the demand upon beds made nowadays by motor accident cases. The criticism

has been made in the public press that while some of the reasons why people who are not indigent seek public hospital treatment may not be admirable, they are nevertheless comprehensible. Those who complain of the exploitation of hospitals should consider to what extent the present difficulties arise out of their failure to provide for patients who, though not indigent, are unable to pay medical fees on a scale appropriate to the rich.

The Government has now announced that its committee has failed to agree upon a policy and that the problem will stand aside for a year until a satisfactory solution is found. And it is appropriate that at this juncture a voluntary medical and hospital insurance scheme has been brought forward by the Victorian branch of the British Medical Association and the Colonial Mutual Life Assurance Society, Ltd. The proposals embrace contributors between the ages of 15 and 59, and the arrangements are made in the first place for four years only, after which they may be modified. The B.M.A.'s principal contribution to the plan is an agreement that its members shall charge only an agreed intermediate scale of fees for medical attendance, operations, and treatment. No profits will be taken from the scheme, which will be administered as cheaply as possible and kept separate from the remainder of the Society's business. If it is found that a profit is being made, the benefits will be increased, the premiums reduced, or the services improved at hospitals where contributors are treated. Premiums will be paid in the ordinary way and there will be no automatic deductions from wages or salaries. The insurance is strictly individual and will not cover the insured's wife or family; the benefits are limited to thirteen weeks. A contribution of 1*s.* a week insures for weekly hospital fees of £3 3*s.*, weekly physician's fee of £1 11*s.* 6*d.*, major operation fee of £10 10*s.*, minor operation fee of £3 3*s.*, operating theatre fee 10*s.* 6*d.*, anæsthetic fee 10*s.* 6*d.*, radiologist's fee 10*s.* 6*d.*, and pathologist's fee 10*s.* 6*d.* A contribution of 6*d.* or 9*d.* a week may be made with a corresponding decrease in benefits. The benefit figures do not represent the fees for services rendered but must be regarded merely as a contribution to such costs.

The Premier of Victoria has expressed his approval of the scheme but holds that if it is to be completely successful it should be compulsory. It was upon this very problem that the Ministry found sharp difference of opinion in its discussions on hospital policy. He also disagrees with the suggestion that there should be a general tax for hospital maintenance; for if a tax of this kind were imposed, all sections of the community should have the right of treatment in the public hospitals.

I have already given details of a somewhat similar insurance scheme instituted in New South Wales as an expedient to assist hospital finance.[1] It has been in operation for some time and differs mainly from the Victorian scheme in that the insurance covers wife and children, the period of insurance is twelve weeks in any one year, and the contributions are 6*d.* a week. The benefits also differ in a number of details. There are now almost 75,000 contributors, and the income for the past fifteen months has exceeded £46,000, of which £36,000 has been distributed to hospitals.

[1] THE LANCET, 1932, i., 101.

HARROW AND WEALDSTONE HOSPITAL.—The General Nursing Council has approved of this hospital as a complete school for nurses.

THE SERVICES

ROYAL NAVAL MEDICAL SERVICE

Surg. Lt. F. W. Besley to be Surg. Lt.-Comdr.

The following appointments have been made: Surg Lt.-Comdr. R. A. Graff to *Sutton*.

Surg. Lts. S. R. G. Pimm to *York* and to *President*, for course; J. E. Davenport to *Malaya*; and G. H. G. Southwell-Sander to *Cornwall*.

ROYAL NAVAL VOLUNTEER RESERVE

Surg. Lts. G. A. Mason and T. C. Stevenson to be Surg. Lt.-Comdrs.

Surg. Lt. (D) G. R. D. Hankinson to be Surg. Lt.-Comdr. (D).

ARMY MEDICAL SERVICES

Majs. G. Wilson, R.A.M.C., and W. L. E. Reynolds, R.A.M.C., to be Dep. Asst. Dirs.-Gen.

ROYAL ARMY MEDICAL CORPS

Lt.-Col. C. F. White retires on retd. pay.

Maj. S. S. Dykes to be Lt.-Col.

Lt. W. G. Kingston resigns his commn.

ARMY DENTAL CORPS

Capt. F. W. Burke to be Maj.

TERRITORIAL ARMY

Maj. D. P. H. Gardiner, having attained the age-limit, retires and retains his rank, with permission to wear the prescribed uniform.

Lts. W. H. Dowell, P. Malpas, and G. M. Frizell to be Capts.

J. Peter (late Cadet, Glasgow Univ. Contgt., Sen. Div., O.T.C.) to be Lt.

The Territorial Decoration has been conferred upon Maj. I. J. Williams.

INDIAN MEDICAL SERVICE

Col. A. W. M. Harvey has been appointed Hon. Surg. to The King, vice Bt.-Col. J. McPherson, who has relinquished the appointment on retirement.

The undermentioned officers retire: Maj.-Gen. Sir John W. D. Megaw and Col. F. E. Wilson.

QUEEN MARY'S HOSPITAL FOR THE EAST END.—At the annual dinner in aid of the funds of this hospital last week it was stated that it serves a population of 2,000,000 and costs £50,000 a year to maintain. There are nearly 300 beds, but 500 are urgently needed. Every year 1000 babies are born there, and the war memorial out-patients' department is attended by 170,000 people annually.

A MANCHESTER "MIDDLE-CLASS HOSPITAL."—The board of Manchester Royal Infirmary has launched a scheme to provide a "middle-class hospital" within the infirmary grounds. At a cost of £95,000 there will be 100 beds, with operating theatres, waiting and visitors' rooms, and special kitchens. Patients will pay from four to ten guineas a week. Bedrooms are planned instead of wards; the four-guinea beds will be in four-bed rooms, with curtained divisions; there will be a few two-bed rooms, and all the rest will be single rooms. More than half the beds will be at prices not exceeding six guineas a week, and medical fees will be adjusted to the needs of each case. All the advantages of the laboratories, X ray, and other departments of the infirmary will be available to the patients. The building will not be started until the whole of the cost is in hand. The money is to be raised by gifts and by loans bearing 4 per cent. interest, but the interest will not begin to be payable until July 1st, 1935, to allow time for the erection of the building, which will occupy the site of the old Christie Cancer Hospital adjoining the infirmary. It is calculated that the hospital will pay its way, provide the interest on the loans, and produce a sinking fund permitting the redemption of the loan in 25 years. The loan certificates will be for denominations between £10 and £1000.

PUBLIC HEALTH SERVICES

The L.C.C. Hospital Service

THE central public health committee reported on Tuesday to the London County Council on the work of coördinating the hospital and allied medical services transferred to the council from the poor-law authorities. These services are now responsible throughout the County of London for the treatment of the sick poor in hospital, for the district domiciliary visiting, and for the institutional care of children under 3 years of age deprived of parental care. The powers and duties of the committee include the provision, classification, and management of hospitals, their visitation and inspection, consultation with representatives of the voluntary hospitals, laboratory services, and the training of nurses and midwives. There are, in all, 74 hospitals with a staff totalling some 18,000 persons. The report estimates the annual cost of maintenance to be not far short of £4,500,000, while large sums have been spent during the three years in structural developments to which the following paragraph gives a clue :—

One new convalescent hospital at Sidcup (500 beds) has been acquired, and another at Tooting (320 beds) reopened. At about 30 hospitals major schemes of extension, enlargement, or improvement (including better accommodation for nurses), some prepared by the late authorities, have been completed or are in process of being carried out. At Hammersmith hospital the extensions and alterations are part of the scheme for the British Post-Graduate Medical School to be established at the hospital. All the hospitals (except one for chronic sick, the allocated institutions and the two epileptic colonies) have been appropriated and taken out of the poor-law. Accommodation in the institutions, suitable only for healthy inmates, is being gradually converted for the reception of hospital patients. Accommodation for maternity cases has been extended (112 additional beds) and improved, and arrangements have been made for antenatal attendances at all the general hospitals at which there are maternity wards. Reorganisation of the observation wards (for mental cases) is taking place. Auxiliary services (laundries and kitchens, &c.) have been improved at practically all the hospitals, and a great number of other structural improvements of all kinds have been effected. A comprehensive modern pathological laboratory service has been established and made available for all the hospitals, and a complete consultant and specialist service has also been organised for the hospitals. The transferred ambulance services have been combined with the street accident ambulance service operated, since its inception, by the Council, and the combined service has been strengthened in material and facilities for ready summoning. The district medical service has been reorganised, subject to further review in two years' time, and greater use is being made of the voluntary district nursing services in London.

The magnitude of the work has led to the appointment of four central subcommittees : (1) hospital management, (2) planning and development, (3) staff, and (4) public health (general)—the last of which deals with the original public health powers possessed by the Council, and is, for the time being, responsible for the ambulance service. All four subcommittees have extensive delegatory powers of administration and expenditure. When the municipal hospital service for London was taken over from the old authorities, of which there were 26, the bed accommodation on transfer was estimated as about 40,000, of which one-quarter were in institutions which could not be regarded as suitable for modern treatment of the sick. Accommodation for healthy inmates has been reduced by about 1100 beds, and when the structural works are completed there will be a net increase since April, 1930, of more than 1400 beds, 500 of them being at Queen Mary's convalescent hospital, Sidcup.

The transferred hospitals, general and special, have mostly been appropriated to the reception of the sick, under the powers conferred by the Local Government Act, 1929, the statutory obligation being to provide medical treatment, as relief, for the poor. The effect of the appropriation is that persons are now being admitted to the hospitals as municipal and not as poor-law patients. Out-patients are treated at the appropriated hospitals in the following cases : (1) accidents, (2) continuation treatment, (3) antenatal and postnatal treatment, and (4) consultation and treatment in special cases. The arrangements conform, as far as possible, to the recommendations of a committee of the King's Fund that non-urgent minor cases should be treated by the general practitioner.

In the transferred general hospitals the accommodation for acute sick has been generally speaking fully occupied, while the acquisition of Sidcup and the reopening of St. Benedict's (Tooting) have relieved the pressure, these two hospitals having 820 convalescent beds between them. Special attention has been paid to maternity work in all the hospitals, maternity accommodation at six of them having been improved. Live births in the L.C.C. hospitals have increased in the last three years by over 2300 ; during 1932 more than one-sixth of the births in London (that is 10,974 out of 62,233) took place in these maternity wards.

The report deals with the results of the council's tuberculosis scheme, with the arrangements for the more efficient and economical treatment of venereal disease, and with dental and radiological equipment, while an interesting note states that a complete survey of the mental observation wards has been made. At the time of the transfer, 19 hospitals and institutions provided accommodation for 561 of these patients ; for these small units larger ones, giving better opportunities for observation, are being substituted. Improvements are announced in the amenities for patients. Equipment of the kitchens has been improved. Dietaries are better and more varied. Clothing, when supplied, is in a brighter and more pleasing style, personal appearance—particularly in the case of ambulant patients—being found to have a beneficial effect on progress.

A large section of the report is taken up with a description of the work which has been necessary to bring the transferred buildings up to the proper standard for hospital purposes. Particulars are given of structural schemes carried out in 34 hospitals, the sum of money actually expended in each case being stated and their total agreeing with the figures given in the preliminary statement.

The report concludes with a recital of the uniform scales and conditions settled for the different categories of staff.

INFECTIOUS DISEASE

IN ENGLAND AND WALES DURING THE WEEK ENDED NOV. 25th, 1933

Notifications.—The following cases of infectious disease were notified during the week : Small-pox, 6 (last week 1) ; scarlet fever, 4159 ; diphtheria, 1303 ; enteric fever, 33 ; acute pneumonia (primary or influenzal), 1037 ; puerperal fever, 34 ; puerperal pyrexia, 105 ; cerebro-spinal fever, 29 ; acute polio-

myelitis, 10; encephalitis lethargica, 4; dysentery, 8; ophthalmia neonatorum, 83. No case of cholera, plague, or typhus fever was notified during the week.

The number of cases in the Infectious Hospitals of the London County Council on Nov. 28th–29th was as follows: Small-pox, 8 under treatment (last week 2 under treatment, 3 under observation); scarlet fever, 3294; diphtheria, 2141; enteric fever, 23; measles, 447; whooping-cough, 161; puerperal fever, 18 mothers (plus 3 babies); encephalitis lethargica, 254; poliomyelitis, 3; "other diseases," 208. At St. Margaret's Hospital there were 11 babies (plus 7 mothers) with ophthalmia neonatorum.

Deaths.—In 118 great towns, including London, there was no death from small-pox or enteric fever, 22 (5) from measles, 12 (0) from scarlet fever, 7 (0) from whooping-cough, 44 (8) from diphtheria, 51 (17) from diarrhœa and enteritis under two years, and 58 (15) from influenza. The figures in parentheses are those for London itself.

Liverpool reported 3 deaths from measles, Bolton and Leeds each 2. Three fatal cases of scarlet fever occurred at Birmingham, 2 each at Liverpool and Newcastle-upon-Tyne. Of the deaths from diphtheria 4 were reported from Leeds, 3 each from Huddersfield and Liverpool. Seven deaths at Manchester were attributed to influenza, 4 at Birmingham, 3 at Salford. It is now reported that in October last, small-pox was mentioned as a cause of death in a case assigned to Mansfield-Woodhouse U.D. (Notts).

The number of stillbirths notified during the week was 255 (corresponding to a rate of 47 per 1000 total births), including 45 in London.

PANEL AND CONTRACT PRACTICE

Ambiguous Regulations

ON April 19th last an insured person called for treatment at a practitioner's surgery but found it closed and could obtain no answer. The information thus given to the insurance committee was verified by an officer of the committee who, upon calling, could obtain no answer on ringing the bell at the surgery door. A notice had been placed inside the door to the effect that the surgery was closed until Friday, April 21st, and another notice could be seen hanging in the waiting-room to the effect that during Easter the surgery would be closed from 1 P.M. on Thursday, April 13th, until 11 A.M. on Friday, April 21st. In view of the fact that no notification had been received of the practitioner's proposal to be absent from his practice, a communication was addressed to him and, in reply, he stated he was not aware that notification of his absence was necessary. In a subsequent letter he stated that he was away from his practice for a week, and that he left no deputy, knowing that he had no patients requiring treatment at the time and believing that a hospital could deal with emergencies. He stated further that he was under the impression that the rules provided for a week's absence, and that a locum tenens was only required when the absence exceeded this. It seems that the practitioner had been for some time past in poor health and felt it necessary to take a short holiday. Towards Easter work being slack he thought that, having exhibited a notice of his intention in the waiting-room, he could be away for a week without making arrangements for carrying on his practice.

Clause 11 (2) of the terms of service provides as follows:—

"A practitioner shall inform the Committee of the nature of any standing arrangements which he has made with any other practitioner or practitioners for securing the treatment of his patients in cases where he is unable, for any of the causes mentioned above (Clause 11 (1)), to give treatment personally, and shall not absent himself from his practice for more than one week without first informing the Committee of his proposed absence and of the person or persons responsible for conducting his insurance practice during such absence."

It might be thought upon a cursory reading of this clause, isolated from the rest of the terms of service, that a practitioner would be justified in absenting himself for a week without giving notice to the committee or making arrangements for the carrying on of his practice; but it is surely fundamental that patients should not be left without the necessary provision for their medical attendance and treatment. It is true that it is nowhere provided that if a practitioner is absent from his practice for less than a week he shall provide the services of a deputy, but it is inherent in several of the terms of service. Clause 9 (3) requires a practitioner to attend and treat insured persons at the places, on the days, and at the hours arranged to the satisfaction of the committee. Clause 9 (5) requires a practitioner to visit and treat any patient whose condition so requires. Clause 11 (1) requires that excepting in the case of partners and assistants, all treatment shall be given by a practitioner personally, except where he is prevented from so doing by one of the reasons stated in the clause.

As a result of these rules and arguments, the medical service subcommittee came to the conclusion that a practitioner should not absent himself from his practice without any proper arrangements for the treatment of his patients. As, however, the practitioner was thought to be genuinely under a misapprehension it was decided not to take action as though his failure had been wilful. The committee asked for £5 to be withheld owing to his failure to comply with the terms of service. The practitioner protested to the Minister in a letter in the course of which he said:—

"Had the regulations been devoid of ambiguity the breach could not have occurred. The insurance committee held that a consideration of the various rules would have shown that my interpretation was wrong. I agree. But it is easy for a doctor scanning these regulations to focus his attention on the paragraph which implies that a doctor may leave his practice for a week, by stating positively that he may not do so for more than a week without substituting a locum tenens."

This argument produced the desired effect at Whitehall for a letter was received saying:—

"The Minister appreciates the possibility that a practitioner might misconceive the intention of the terms of service in the manner indicated in the paragraph referred to, and he proposed to consider whether the wording of the terms of service should be altered in due course to remove any possible ambiguity. In the circumstances, while the Minister appreciates the reasons for which the Committee have recommended the withholding of remuneration from the practitioner, it appears to him that a warning letter to the doctor from the Department might be adequate to the needs of the case in lieu of the deduction of the money."

The Minister added that he would be glad to consider any observations from the committee, but the full insurance committee to which the matter was referred had none to offer.

CORRESPONDENCE

A CHRISTMAS APPEAL

To the Editor of THE LANCET

SIR,—Publicity to my appeal for the Christmas gift fund of the Royal Medical Benevolent Fund was very kindly accorded in your issue of Nov. 18th. I acknowledge, very gratefully, the sum of £300 already received. This will suffice to enable us to deal with our annuitants. We still require £300 in order that the most deserving of our grantees shall receive a Christmas gift of 30*s.* each. May I ask all who can to help now. There is still time to send a donation to the hon. treasurer, Royal Medical Benevolent Fund, 11, Chandos-street, London, W.1.

I am, Sir, yours faithfully,

THOS. BARLOW,
President.

Dec. 1st, 1933.

THE B.P.A. AND GENERAL PRACTITIONER TREATMENT

To the Editor of THE LANCET

SIR,—The leading article in your issue of Nov. 25th, in which you described the aims of the British Provident Association, has naturally drawn inquiries as to why the Association does not include among its benefits fees for general practitioner treatment. Perhaps you will allow me as a member of the executive of the Association to explain.

The B.P.A. was faced with a problem of considerable complexity. The fact that the great insurance corporations have never tackled the problem, or have only done it in a very half-hearted way, was a proof of that, and yet we felt that the experiment ought to be made. It would have been fatal if we had promised benefits that we later found ourselves unable to provide, and almost as bad if we had laid down for a complete service premiums which would have given us a safe margin, but would have been so heavy as to damn the movement from the beginning. We therefore tackled the most urgent part of the problem which is that of meeting the bill for a serious operation or dangerous illness requiring institutional treatment. We have proved that our scheme is actuarially sound, and our members renew in a proportion which is the envy of the ordinary insurance company. It must be remembered that from the actuarial point of view it is much easier to calculate the risks of claims being made for surgical operations and institutional treatment than for ordinary medical attendance on the middle classes. For this last item figures on which calculations could be based are very difficult to get.

If the scheme is supported as it ought to be we shall be encouraged to go further. But I feel sure that any medical practitioner who considers the scheme carefully will realise that in recommending it to his patients he is not only contributing to their sense of security and peace of mind, but he is making it easier for them to meet the bills for that part of the service for which the general practitioner is responsible.

I am, Sir, yours faithfully,

Half Moon-street, W., Nov. 30th, 1933. ALFRED COX.

DIET AND WEIGHT

To the Editor of THE LANCET

SIR,—Dr. Howard has suggested an interesting view as regards diet and weight, but I should like to ask him whether he has ever seen, or knows anyone who has seen, a healthy, athletic man or woman over the age of 75 who presents anything but a spare or "wiry" picture as regards his bodily appearance? By athletic, I mean a man who can still ride to hounds, or play tennis, or have a day's shooting.

I am, Sir, yours faithfully,

HENRY W. HALES, M.D. Camb.

Portland-place, W., Dec. 1st, 1933.

THE PSYCHOLOGY OF PERSONAL INFLUENCE

To the Editor of THE LANCET

SIR,—As professional antagonism to "suggestion" depends mainly on a misunderstanding of the word, Dr. William Brown is to be thanked for his address on the Psychology of Personal Influence published in THE LANCET of Nov. 25th (p. 1191). An exposure of the inadequacy, futility, and even falsity of the views on suggestion of Freud, Jones, and McDougall has been long overdue.

Dr. W. Brown does not, however, carry the discussion far enough. "Congruence of the unconscious of the hypnotist and that of the hypnotised—deep calling unto deep," "agreement in the realm of the unconscious" are not self-explanatory statements, and do not cover the use of "suggestion" as a formal procedure. The operator desires to produce inner thinking in the subject approximately congruent to what is his, the operator's *intention*; congruence to his own inner thinking the operator does not desire. A man may by suggestion save others and yet "be himself a castaway."

I understand "unconscious" in about 19 different senses; in what sense does Dr. W. Brown use the word? May I take it, in the metaphorical language of Boehme, as "a dumb essence; a prepared instrument of music upon which the will's spirit plays; what strings he touches, they sound according to their property." It is this "prepared instrument" to which one applies suggestion. Dr. W. Brown is right, in that a common nature, a common degree, however small, of general or specific emotivity in operator and subject must be assumed; only sympathetic insight can give power to employ suggestion. As Boehme adds: "I may understand him really and fundamentally, be it either spoken or written, if he has the hammer that can strike my bell."

This inner likeness, however, is not suggestion, but the platform for its display; its discernment in particulars is the means whereby the subject selects the operator best fitted to move him, and is the ground of the operator's intuitive or intelligent selection of the most moving suggestions. Suggestion as an inner process is not always "deep calling unto deep"; it is more generally "deep" answering to one skilled or moved to plumb it. It is a stirring of inner inbred impulse in automatic response to another person's often cool procedure.

In using "suggestion" we have, firstly, to reckon with an innate characteristic of the intelligent subject, described by one observer as a psychological law—viz., (*a*) that when reduction to *automatic* conviction is definitely obtained, then the subject tends to accept other truisms; and (*b*) a falsehood causes the receiver *automatically* to desire no more falsehoods. That is to say, in other words a truth apprehended engenders faith; a falsehood detected destroys suggestibility. Faith, scepticism, the tendency to "the right and reasonable as such," the "power of personality" are largely resumed in this "law." Secondly, suggestive procedure depends upon the operator's intuition, or knowledge gained by trial and error, of the automatic responses naturally made by human beings and

animals to given circumstances, and to the tones, words, gestures, and acts of man. Thirdly, suggestion is a purposeful procedure. It is the *selective* stimulation of favourable emotional dispositions so as to produce a reflex concentration of attention such that *chosen* ideas shall inhibit others.

Suggestion is to psychotherapy what the art of teaching is to education. Suggestion as a process, which includes auto-suggestion, means any automatic reaction or reflex mechanism of the mind—e.g., one word suggests another. Auto-suggestion has also the meaning of an explicit or implicit purposive use of one's own reflex mental mechanisms. Suggestion as a mode of communication means a form or procedure *calculated* to produce, reflexly, inner thinking in the subject approximately congruent to the intention—e.g., a dog gripped my thigh in its jaws: I stood still and relaxed my thigh muscles. Stiffness would have suggested fight or flight; stillness and relaxation suggested harmlessness; the dog did not bite in, and was readily called off by the householder. *Pace* Prof. McDougall, I "stooped to conquer."

From these definitions it follows that in suggestive treatment there is both hetero- and auto-suggestion. What the operator wills is hetero-suggestion, what the subject deduces emotionally without the intention of the operator is auto-suggestion. If I yawn and an onlooker yawns it may be auto-suggestion, a mental reflex; if I yawn to make him yawn it is suggestion. Hypnosis, by the way, is not strictly a state of enhanced credulity, but a state of enhanced obedient attentiveness to given things.

I am, Sir, yours faithfully,

W. THOMSON BROWN, M.B.

Brisbane-road, Ilford, Dec. 2nd, 1933.

THE CONSULTANTS' PANEL

To the Editor of THE LANCET

SIR,—The inadequate representation of whole-time consultants and specialists in the counsels of the British Medical Association has facilitated the production of the scheme for a list of consultants with which the Association is presenting to us in the provinces. Consultants are unorganised and are, for the most part, politically inarticulate. The Association has hitherto provided a useful platform for technical propaganda and education, but it is now apparent that some machinery must be elaborated, if not within then without the Association, for the protection of our interests.

The present whirlwind campaign being conducted by the secretarial staff has taken many of us by surprise, especially those, as one speaker at last night's meeting in this city put it, "who peruse only those parts of the journal occupied by scientific and pseudo-scientific papers." It was proposed to decide this vital matter by a postal vote to be held within the next few days; fortunately, however, the meeting, resenting the short notice, dealt with this proposal in no uncertain manner. Accordingly the referendum has been postponed until the end of the first week in January. The Association for this occasion recognises and enfranchises persons who are divisible into two groups: the first is composed of whole-time consultants or specialists, whilst the second, and larger, consists of part-time practitioner consultants. The proposed reduction of the consultation fee will affect principally the whole-time consultants. One speaker at the meeting referred to stated that 42 per cent. of the patients consulting him during the past year would have been within the scope of this scheme; a simple calculation demonstrated the extra work which would have to flow into his consulting-rooms to maintain his present income. It is unlikely that the scheme proposed could produce this flow. The practitioner consultants, by their numerical preponderance, are likely to be the deciding factor in the referendum. The position is extraordinary, as it is unlikely that, with the exception of an occasional gala day, their remuneration for a consultation amounts even to one guinea; they have nothing to lose and appear to be wholeheartedly in favour of the scheme. These remarks do not apply, of course, to those estimable practitioner consultants who function in regions where whole-time consulting work is not an economic proposition.

Practitioners on the present panel of the State Medical Insurance will, of course, not be eligible to participate in the scheme, as legally they are debarred from receiving remuneration from insured persons. The practitioner consultant is subsidised in his consulting work, even in his junior days, by his private practice. The whole-time consultant has no such financial foundation to rely upon, so the former should either be debarred, or refrain, from voting away the latter's future. Similarly, it is not unreasonable to expect whole-time consultants over 55 years of age to give their advice but to leave the decision in this vital matter to their junior colleagues, as it is the latter who will have to suffer or benefit from the scheme.

At the meeting alluded to, the opinion was expressed freely that consultants, on the general practitioners' advice, have always met hardship with consideration and charged a reduced consultation fee. Is not this confidential basis preferable to the cast-iron scheme which is suggested?

I am, Sir, yours faithfully,

GEORGE A. MASON, F.R.C.S. Eng.

Newcastle-upon-Tyne, Nov. 29th, 1933.

OIL BEFORE SUNBATHING

To the Editor of THE LANCET

SIR,—In regard to the increased severity of sunburn following application of oils to the body, reported by your correspondent, "J. C. B.," in THE LANCET of Nov. 4th, I am wondering if the observations of Leopold et al (Amer. Jour. Dis. Child., 1932, xliii., 882) may have escaped his attention and would therefore be of some interest. They noted that (*a*) ultra-violet irradiation increased the blood lipoids in 25 per cent. of their patients; (*b*) inunction with non-irradiated wool-fat produced no changes in blood lipoids; and (*c*) inunction with wool-fat followed by ultra-violet irradiation caused significant increases in blood lipoids in 89 per cent. of the cases with a low initial cholesterol and in 33 per cent. of the cases with a normal initial cholesterol. Inunction and light also produced a rise in free cholesterol esters in 86 per cent. of the cases and of the total alcohol-ether extract in 91 per cent. of the cases. It therefore appears that we actually have some biochemical evidence of the increased effectiveness of ultra-violet irradiation following the application of oils to the body—which seems to corroborate the empirical observations of your correspondent. It is not at all unlikely that further investigations in this field will yield some rather startling findings, as is indicated in the recent report of Eising (Annals of Surg., June, 1931), who found irradiated petrolatum to have an unusual healing effect when applied to chronic ulcers.—I am, Sir, yours faithfully,

HARRY BECKMAN.

Marquette University School of Medicine, Milwaukee, Wisconsin, U.S.A., Nov. 20th, 1933.

ARTERIAL DISEASE OF THE EXTREMITIES

To the Editor of THE LANCET

SIR,—In a very comprehensive and interesting article in THE LANCET of last week, Mr. A. Dickson Wright refers to a condition known by the formidable name of erythrocyanosis crurum puellarum frigida. He states, and to the best of our knowledge quite correctly, that "no ganglionectomies have been recorded for this disease. . . ." May we beg the favour of your space to state that in our series of 98 ganglionectomies we have performed this operation on nine young women suffering from this condition. The results have been uniformly excellent and the symptoms have been completely abolished.

Minor degrees of the disease are, of course, very common, but in the severe cases associated with distress and disability from pain, chilblains, and recurrent ulcers we can strongly recommend the performance of a bilateral lumbar ganglionectomy. Four of these nine patients have now been watched during two years and the results remain completely satisfactory. There has been no relapse in any of the nine patients and in each case normal activity for both work and play has been fully restored.

We are, Sir, yours faithfully,

E. D. TELFORD,
Manchester, Dec. 4th, 1933. JOHN S. B. STOPFORD.

HOT-WATER BOTTLES AFTER BASAL NARCOSIS

To the Editor of THE LANCET

SIR,—Since avertin and the other so-called basal narcotics have come into such general use before anæsthesia, a word of warning appears to be necessary in the use of hot-water bottles during the long sleep which follows the use of these drugs. It is this prolonged sleep, low blood pressure, and the appearance of low vitality with perhaps a chilly feel which tempts nurses, quite naturally, to put hot-water bottles in the beds of these patients. Under no conditions should this be allowed, as these people are particularly prone to burns, even though the bottle is only just warm, covered and used outside blankets. A hot-water bottle is a potential danger after any anæsthetic, but becomes an actual danger after the use of basal narcotics, and should be rigidly prohibited.—I am, Sir, yours faithfully,

Harley-street, W., Dec. 2nd, 1933. Z. MENNELL.

HELMINTHS AND PELLAGRA

To the Editor of THE LANCET

SIR,—In your issue of Nov. 25th Major A. G. Biggam and Dr. Paul Ghalioungui report that they found in pellagrous patients in Egypt a higher helminthic infection-rate than was the average for that country, and suggest that such infection may play a part in producing pellagra, and may account for its occurrence in certain members only of a family all of whom are on the same ill-balanced diet. It is interesting to turn back to an evidently forgotten letter in THE LANCET of May 29th, 1920, in which Dr. H. M. Woodcock, writing of the same country, gave his reasons for concluding that in addition to deficient nutrition as an essential factor in the production of pellagra another might be necessary—namely, the presence of a helminthic infection. Since two separate investigators have, evidently independently, reached the same conclusions, these, it is clear, cannot in future be disregarded.

I am, Sir, yours faithfully,

Ealing, Dec. 5th, 1933. CLAYTON LANE.

LETTSOM

To the Editor of THE LANCET

SIR,—Mr. J. Johnston Abraham, writing in your issue of Nov. 11th, is quite correct, of course, in attributing the permanence of the 1817 edition to its hand-made paper; but is certainly in error in preferring so-called art paper for his own recent "Life of Lettsom"—that is, a paper of unknown base, almost certainly esparto, with a coating of china-clay—on the ground of durability. The report of the Library Association on the durability of paper was against the use of art paper.

There is all the difference between news paper, printed on disintegrated wood-pulp, and a good sound chemical wood paper as recommended in the report. The publisher's difficulty is always, where illustrations are scattered amidst the text, that the best way of printing for this purpose—namely, photogravure, which enables any good uncoated paper to be used for photographic illustrations—is only economical where at least 5000 copies of a book are printed. There are other methods also.

On bulky books the authors of the report had no mercy. I am, Sir, yours faithfully,

Bedford-square, W.C., Nov. 30th, 1933. ONE OF THEM.

OBITUARY

JOSEPH FRANCIS PORTER, D.S.O., M.D. Dub.

THE death is announced of Dr. J. F. Porter, at his home in Helmsley, at the great age of 93, on Dec. 4th. He entered the profession when already about 30 years of age, and graduated in arts at Trinity College, Dublin, in 1868. He took the M.B. degree in 1873, proceeding to the doctorate four years later, having already qualified as M.R.C.S. Eng. Dr. Porter was for 50 years closely and importantly connected with medical and social life in Helmsley, where he acted as medical officer of health for nearly half a century. He was one of the oldest magistrates on the North Riding of Yorkshire Bench, and was county coroner during the greater part of his career, being probably, at the time of his death, the oldest coroner in the country. The duties of this office he discharged actively without assistance until quite recently. Early in life he had served as surgeon in a volunteer regiment, and for his sound work in training V.A.D. detachments before the war he was appointed O.B.E.

EDWIN AWDAS NEATBY, M.D. Brux.

WE regret to announce the death of Dr. Edwin Awdas Neatby, which occurred at his home at East Grinstead on Dec. 1st. He received his medical training at the London Hospital, where he was a surgical scholar, took the diploma of M.R.C.S. in 1880, and that of L.R.C.P. Lond. in the following year, and served as house surgeon to the hospital. He graduated as M.D. Brux. in 1882, and became prominent in homœopathic circles, acting as president of the British Homœopathic Society, and on one occasion presiding over the annual congress. Dr. Neatby wrote upon the treatment of uterine fibroids, and coöperated in the production of a Manual of Homœopathy.

MATERNITY AND CHILD WELFARE IN SOUTH AFRICA. The Government of the Union has decided to appoint a woman medical officer of health, with three health visitors, for child welfare work in the country districts of South Africa. This appointment is made in response to the repeated demands of the South African National Council for Child Welfare and other organisations.

PARLIAMENTARY INTELLIGENCE

NOTES ON CURRENT TOPICS

Hospitals and Sweepstakes

IN the House of Lords on Nov. 30th the Duke of SUTHERLAND asked His Majesty's Government whether they would consider a change in the law in regard to sweepstakes in this country, and whether, in view of the fact that several other important countries permitted sweepstakes for the urgent needs of charity, we should continue to deprive ourselves of this valuable source of wealth when it was practically impossible in these days to raise the funds needed for hospitals and other charitable institutions by ordinary methods. Even deducting the prize money distributed by the Irish sweepstakes in this country hundreds of thousands a year went out of our pockets to enrich the Free State hospitals and endow the Free State Exchequer. If the big hospitals said they did not want sweepstakes or lotteries as they would discourage their regular subscribers, let them by all means fall in with their wishes, but vast sums of money were required for other intensely necessary objects. The fund for cancer research was not nearly adequate for its purpose, and doctors appeared to have no real knowledge about influenza or the common cold. The British public had made it quite clear that they wished for the continuation of the voluntary hospital system, but the decline in big fortunes made it difficult to obtain money in large blocks for capital purposes. It was this need which might well be met out of grants from a lottery fund administered by King Edward's Hospital Fund or the Central Fund of the British Hospitals Association out of the block grants made to them from the general fund of the lotteries. Such grants could, I feel confident, be given without fear of alienating the sympathy of existing subscribers and donors.

The same argument applies in the case of institutions other than hospitals which are kept up mainly or entirely by voluntary contributions. They, equally with the hospitals, are in danger of losing their present support if they receive money for maintenance from the lottery fund, but in almost all cases there is some central national body to which they are affiliated in one way or another and to which they are entitled to look for assistance. If help came to the hospitals in this way through the national body he did not think the most determined opponent of lotteries would find cause to cease his personal contribution. The Lotteries Commission was sitting at that moment and a Lotteries Bill was to come before Parliament early in the new year. He hoped that the Home Secretary when drafting his Bill would consider all these points very seriously.

The Duke of ATHOLL said that all the present law did was to stop any honest open effort in this country, to remove the wholesome safeguard of publicity, and to drive such things into the hands of undesirable people.

The Archbishop of CANTERBURY said he did not know what evidence could be produced in support of the statement that it had been found practically impossible to support hospitals by voluntary means; but he would be surprised to know that our hospitals were less adequately equipped with facilities for medical research than those of any other country in the world. If they took a plebiscite of the physicians and surgeons teaching in the medical schools and working in the wards of our hospitals, he doubted whether any would be found to welcome the obtaining of means for further research by methods such as those proposed. The result of such would be the drying up of the springs of individual effort and support. In every part of the country at the present time multitudes of persons were giving voluntary care, interest, thought, and time to the welfare of the hospitals. If the hospitals were to rely on other methods they could hardly expect this happy state of things to continue.

The Bishop of WINCHESTER said there was a real danger that the hospitals instead of gaining from lotteries and sweepstakes would suffer. That he believed had been the experience of the hospitals in Ireland. He was told they were in a very precarious financial position to-day. The direct subscriptions had fallen off.

The Earl of ONSLOW, Chairman of Committees, said he thought it probable that the hospitals would not suffer financially if sweepstakes were available for their finance, but that was not the objection he felt to the suggestion. From time immemorial our hospitals had been based on a system of voluntary support and he would regard it as a matter of extreme danger if they were in any way to interfere with that basis. Since the war our hospitals had been supported by a system of mass contribution, and anything that militated against that would be a dangerous proposition. When about ten years ago he was asked to be chairman of the Voluntary Hospitals Commission the hospitals were in a bad state owing to the debts which they had incurred during the war. The Treasury generously provided £500,000 to liquidate those debts. But a lot of people said that once the hospitals drew support from other than voluntary sources they were cutting at the root of the financial system and it was doubtful whether they would not lose more than they gained. The Commission had to organise the distribution very carefully, and it had to be made quite clear that this was not the thin end of the wedge. He believed that if they instituted a system by which the hospitals benefited from sweepstakes they would get the same results as if they made them dependent on the taxes or the rates.

Lord SANDERSON said the present system of hospital finance involved a tremendous amount of work and anxiety upon the people who controlled the hospitals. It did not spread the burden over the people in at all an equal way. He believed the municipalisation of the hospitals would have great advantages over the present system.

Lord LUKE said the motion contained an exaggerated statement of the financial position of the hospitals. Public attention was drawn to the hospitals that had the greatest need, and not so much was heard of the more numerous hospitals with surpluses. The Irish sweepstake might produce a million or two a year for Irish hospitals, but nine or ten millions were raised for the British voluntary hospitals by a combination of voluntary gifts and contributions from those who received benefits. There was, in addition, the free and generous services given by doctors and committee members and others. There was a fear in hospital circles that if lotteries were legalised and even a million pounds were passed on to the hospitals it would dry up the source of voluntary gifts to a larger extent.

The Earl of LUCAN said the Government would give consideration to the opinions expressed that afternoon. The report of the Royal Commission was now public property and the recommendations contained in it were being carefully examined by the Government. No policy had yet been formulated on the subject, but the Government would lose no time in submitting proposals to Parliament.

Emergency Treatment of Road Accidents

LORD MOYNIHAN'S BILL

In the House of Lords on Dec. 5th Lord MOYNIHAN moved the second reading of the Road Traffic (Emergency Treatment) Bill. He said that in June last he introduced a similar measure to which their lordships gave generous approval, and which was referred to a special committee. That committee, of which he was a member, heard evidence

from witnesses representing the British Medical Association, the British Hospitals Association, the Automobile Association, and the Royal Automobile Club. Certain amendments to the Bill had been made by the committee which he hoped their lordships would accept. Speaking generally, it had been recognised that hospitals were suffering great loss, not only in respect of in-patient treatment, but also in respect of emergency treatment or first aid given in connexion with road accidents. The loss to the hospitals was roughly assessed at about £30,000 a year. In his original remarks he had stated that only about one in five medical practitioners who dealt with motor accident cases received any recognition or remuneration for their work. In a very large number of cases very considerable expense was caused to the doctor called in to render emergency treatment. Cases had been quoted to him where it had cost the doctor £50 in expenses in six months. A closer examination, and discussion with doctors up and down the country, showed that his former estimate of one in five was far from correct. It was more accurate to say that only one in 20 or 25 received either verbal or written thanks or remuneration for the work they had done. The only question was what fees should be paid and by whom they should be paid. He (Lord Moynihan) had originally suggested a maximum sum of £3 3*s.* as meeting the case, but it had been pointed out to him that that maximum would be quite likely to become the standard fee, and if that were the case a standard fee of three guineas would obviously be very greatly in excess of what was required to remunerate some doctors for their attendance. The committee had decided that a fee of 12*s.* 6*d.* would be a fair one to charge. He had suffered a certain degree of criticism from members of his own profession for acceding to the decision to reduce the fee to 12*s.* 6*d.* He had no doubt that in a great many cases that sum would be found too little, but it was very considerably in excess of exactly nothing which the great majority of doctors got now. In many cases 12*s.* 6*d.* would be adequate payment for the services rendered. As to the source from which the money should be obtained, the committee, after full consideration, took the view that the best plan was that the risk should be part of the general third-party risk. The number of motor licences of mechanically propelled vehicles on the road was at the last return 2,229,576. If a fee of a 1*s.* was added to the insurance premium it was quite obvious that the amount required to pay the hospitals and medical practitioners for emergency treatment would be easily covered.

LORD DAWSON'S SUPPORT

Lord DAWSON supported the Bill. He said that he thought it would be admitted that there was here a very real grievance. Medical men worked long hours every week. They looked forward to a quiet day on Sunday, but that was the day of all others when they were most likely to be called out. The expenses in which a doctor might be involved as a result of attending motor accident cases were very considerable. He was told of many instances where the dressings alone amounted to a substantial sum, and for all this the doctors at present got nothing. It could not be said that 12*s.* 6*d.* was a princely sum in these circumstances. It was just about the amount which one would pay to a plumber for mending a broken pipe, yet it was the sum offered to men who had undergone years of training to qualify themselves for their profession.

THE GOVERNMENT'S REPLY

The Earl of PLYMOUTH, Parliamentary Under-Secretary for the Colonies, said that the Bill differed from the previous one introduced by Lord Moynihan in certain respects. There was an alteration in the charge for emergency treatment, and instead of being a sum not exceeding £3 3*s.* it was now fixed at 12*s.* 6*d.* Claims for payment need now only be made within seven days, whereas originally they had to be made within 72 hours. Clause 4 of the Bill was a new and important one. It now made the liabilities imposed by the Bill third-party risks, to which the Road Traffic Act applied. Clauses 6 and 7 were new, and he imagined that Clause 7 had been introduced to go some way towards meeting the objection that the owner of a vehicle would be called on to pay fees for emergency treatment even if he might have been in no way responsible for the accident, or might not have been present when it occurred. That clause made it clear that he was in no circumstances entitled to recover what he had had to pay from any persons to whose negligence the accident was actually due. Although the Bill had undoubtedly been altered in various respects, in principle it seemed to be more or less the same as the original Bill. Payments under the present Bill fell on the owner of the vehicle whether he was negligent or not, and Clause 4 required him to insure against those liabilities. It therefore followed clearly that if an authorised insured person made a payment for emergency treatment under the Bill he would at once become liable to make further payments to the hospital provided for under the Road and Rail Traffic Act, whether or not there was any legal liability on the part of the owner of the vehicle. The result of that would be that the liability of authorised insurers under the Bill would be increased a great deal more than he imagined even the select committee or the promoters interned originally. He would be liable for payments up to £50 in relation to an in-patient of a hospital and £5 in respect to an out-patient, whether or not there was any legal liability on him apart from this Bill. In those circumstances, no doubt the House would wish to amend the Bill if it went to committee. The Bill gave to a doctor an enforceable right against the owner of a motor vehicle in an accident to recover remuneration in respect of emergency treatment to any injured person. In those circumstances it would be reasonable to provide that should a doctor apply for payment under the provisions of the Bill, he should not be entitled to charge for any treatment against any other person. He believed other amendments had been suggested to Lord Moynihan, which he would accept.

The main objections to the Bill remained unaffected by the alterations which had been made. This Bill, like the earlier one, undoubtedly ran counter to the established principle of Common Law and would, in effect, fasten liability on a man in respect of an accident for which he might not be in the slightest degree responsible. He presumed that the promoters of the Bill were quite satisfied that in practice medical practitioners could readily recover the small fees to which they would be entitled under the Bill. Human nature, being what it was, one could not help thinking that in many cases the motorists would be very likely to ignore any letters from medical practitioners, of whom they knew nothing, asking for a payment of 12*s.* 6*d.* in connexion with an accident of this kind. He fully realised that medical practitioners and hospitals had a substantial grievance as things stood at present, and he had every sympathy with the object of the Bill. He greatly doubted, however, if the Bill provided a right or even a fair way of attempting to achieve the objects they all had in view. The Government could not accept the particular remedial measures which had been proposed, and they therefore were not in a position to accept responsibility for the Bill. In the circumstances he was not able to give any undertaking, now, that if the Bill reached the House of Commons the Government would be prepared to provide facilities for its passage there.

Lord MOYNIHAN said that obviously the present situation called for remedial measures of some kind. Lord Plymouth's remarks had not been very helpful. Lord Dawson had been President of the British Medical Association, and it was part of the duty of the association to protect, so far as it could, the rights of its members and of the general practitioners

throughout the country. The association had given very careful consideration to the point in regard to payment, and, on balance, had decided that in very many cases, although the 12*s.* 6*d.* might be less than was adequate, in many cases it would be adequate. His object in bringing in the Bill was that the present grievances of the hospitals and general practitioners should by some means or other be remedied. He was not wedded to the exact steps which should be taken to achieve that end, but those grievances were considerable and increasing. If grievancies could be removed by the payment of a reasonable sum of money every year, he was quite indifferent to the source from whence that money was derived. It was fantastic to suggest that because a man was called on to pay an additional 1*s.* for his insurance he would withhold his usual subscription to a hospital. Speaking, not only for himself, but for all the people connected with the hospitals and for the general practitioners of the country, he asked the House to give the Bill a second reading.

The Bill was read a second time.

HOUSE OF COMMONS

WEDNESDAY, NOV. 29TH

Native Backwardness in Africa

Captain ERSKINE-BOLST asked the Secretary of State for the Colonies whether his attention had been called to the representations of British scientists, of which a copy had been sent to him, in favour of an inquiry into the causes of Native backwardness in Africa; and if so, whether he proposed to take any action.—Sir PHILIP CUNLIFFE-LISTER replied: I have received a letter from the Eugenic Society urging that steps should be taken to carry on and expand certain researches recently carried out in Kenya. I propose to consult the Colonial Government as to whether any steps can be taken to prosecute an inquiry of the nature suggested, but in the present state of the Colony's finances I very much doubt whether the Colony could find the necessary funds, and I should not be prepared to suggest that the burden should fall on the Government of this country.

Motor Horns and Public Health

Sir WILLIAM DAVISON asked the Minister of Transport whether his attention had been called to a recent order made by the prefect of police in Paris forbidding the sounding of horns or sirens by motor drivers between the hours of 11 P.M. and 6 A.M.; and whether, in view of the annoyance and detriment to health caused to residents in London and other cities in Great Britain from this cause, he would consider the introduction of legislation enabling similar regulations to be made in this country.—Mr. OLIVER STANLEY replied: I am aware of the order to which my hon. friend refers and am considering at the present time whether it would be practicable and desirable to institute a scheme of this nature in a defined area in London for an experimental period.

Motor Accidents and Insurance Liability

Mrs. COPELAND asked the Minister of Transport if he was aware that in a number of cases where serious or fatal injury has been sustained in motor-car accidents it had proved impossible to recover damages, even when judgment had been obtained in the courts, as the insurance companies involved had repudiated liability on various grounds such as mis-statements in proposal forms, withholding material information, &c.; and if he would introduce legislation to remedy this state of affairs and ensure that the courts had jurisdiction in all these cases of disputed liability.—Mr. OLIVER STANLEY replied: I am aware that in some cases injured persons are unable to recover damages owing to the repudiation and liability by the insurance companies. An insurance policy is a contract of indemnity between the insurance company and the insured, and misrepresentation or the withholding of material information, when a proposal for insurance is made, is liable to render a policy so obtained void. The question of further legislation on this and on other points connected with the insurance against third party risks required by owners of motor vehicles is receiving my consideration, but the problem presents many difficulties.

Prevention of Fire in Public Vehicles

Dr. HOWITT asked the Minister of Transport whether his attention had been drawn to the recent fatal results consequent upon fire in a Manchester corporation omnibus; and whether he is satisfied that adequate measures for the prevention of fire were provided in public vehicles.—Mr. OLIVER STANLEY replied: My inquiries into this case are not yet complete. In general, I think the requirements as to the construction and equipment of public service vehicles are adequate.

Slum Clearance: Names of Owners

Captain CROOKSHANK asked the Minister of Health whether he would give instructions that when a scheme for slum clearance had been adopted the competent authority should publish in the press or in some other suitable manner the names of the owners of the slum property which had been condemned.—Mr. SHAKESPEARE (Parliamentary Secretary to the Ministry of Health) replied: Under the Housing Acts (Form of Orders and Notices) Regulation, 1932, a schedule containing the description and situation of the properties included in the order and the owners, lessees, and occupiers (other than tenants for a month or less) is attached to every order made by a local authority in respect of a clearance area, and notice of the making of such an order is published in local newspapers. The place where a copy of the order can be inspected is stated in the notice.

Defence against Chemical Attack

Mr. THOMAS WILLIAMS asked the Financial Secretary to the War Office whether the Chemical Defence Committee made grants to any universities or other educational institutions or to any private research establishment in order to enable research in connexion with chemical warfare to be carried out therein; and, if so, what was the amount of such grants for 1933 and what were the names and addresses of the institutions and/or persons who received them.—Mr. DUFF COOPER replied: Certain scientists at the Universities of Oxford and Cambridge carry out experiments on chemical defence problems, for which payment is made to them from Army funds. The estimated payments are included in the sum of £2555, shown on page 171 of the estimates for the current year.

THURSDAY, NOV. 30TH

Slum Clearance

Major NATHAN asked the Minister of Health the total number of clearance orders and compulsory purchase orders made under Part I. of the Housing Act, 1930, by the London County Council and the Metropolitan borough councils, respectively, since Jan. 1st, 1933; how many of such orders had now been confirmed by him; and how many houses would be demolished in consequence of such orders.—Mr. SHAKESPEARE replied: 16 orders relating to 624 houses have been submitted by the London County Council since Jan. 1st, 1933, of which 9 orders, covering 249 houses, have been confirmed; 29 orders, covering 462 houses, have been submitted by the Metropolitan borough councils, of which 13 orders, covering 154 houses have been confirmed.

Major NATHAN: Does the hon. Member consider that a satisfactory rate of progress?

Mr. SHAKESPEARE: No, Sir. The figures I have given refer to the state of things before we started the national campaign against slums.

Mr. D. G. SOMERVILLE asked the Minister of Health whether, in the case of towns which had stated that they had no slums which merited clearance, his department had made investigation into the local housing conditions; whether any local decisions had been reversed; and, if so, in how many cases.—Mr. SHAKESPEARE replied: The reply to the first part of the question is in the affirmative. There has been a number of instances in which, after representations made by my right hon. friend, a local authority has reviewed its first proposal and submitted a programme, but I cannot give any precise figure.

Mr. HICKS: Does the Minister think that there are any towns or villages in this country slum-free?

Mr. SHAKESPEARE: In every case where a nil return has been sent in we have taken steps to have a very careful inquiry made. We have not accepted a nil return without checking it.

Mr. JOEL asked the Minister of Health the names of the 45 towns which had not complied with his request for a statement as to their respective slum clearance plans.—Sir HILTON YOUNG replied: The number has now been reduced to eight, and the names are as follows: Ruthin B., Aberayron U.D., Cwmamman U.D., Ellesmere U.D., Fishguard U.D., Llanwrtyd Wells U.D., New Radnor R.D., and Uwchaled R.D.

Unemployment and Malnutrition

Mr. TINKER asked the Minister of Labour whether he had considered the report of a committee of nine doctors appointed by the British Medical Association, of which a copy had been sent to him, in which it was stated that the average unemployed family was not getting enough food to keep it in reasonable health; and whether, in view of the facts in the report, he would consider the necessity of making provision for more adequate allowances to unemployed persons and their dependants.—Mr. R. S. HUDSON (Parliamentary Secretary to the Ministry of Labour) replied: The report to which the hon. Member refers is at present under consideration by the Ministry of Health Advisory Committee on Nutrition. The hon. Member will perhaps allow me to point out that the report does not, as he suggests in his question, state that the average unemployed family is not getting enough food to keep it in reasonable health; on the contrary, it makes it clear that it was no part of its duty to determine any such point. The hon. Member has no doubt read the annual report for 1932 of the Chief Medical Officer of the Ministry of Health, published two months ago, which examines fully the state of health of the average unemployed and shows that at present there are no grounds for apprehension.

Osteopaths and Registration

Mr. HALL CAINE asked the Minister of Health whether he would consider the desirability of appointing a committee to consider what steps, if any, should be taken to control and regularise the activities of osteopaths in the interests of the public.—Mr. SHAKESPEARE replied: My right hon. friend does not as at present advised think that any public interest would be served by the appointment of such a committee.

Public Health Propaganda

Dr. HOWITT asked the Minister of Health whether, with a view to propaganda in the interests of public health, he would take steps to secure and make use of the poster frames throughout London and the provinces recently in use by the Empire Marketing Board.—Mr. SHAKESPEARE replied: The Government decided to facilitate, so far as they are able to do so, the transfer of these frames to local authorities for use primarily for health propaganda. My right hon. friend issued a circular to the local authorities concerned on Nov. 6th. My right hon. friend is informed that up to the present arrangements have been made for more than 500 of these frames to be taken over by the local authorities.

Local Authorities and Medical Services

Dr. SALTER asked the Minister of Health the total cost of the medical services provided under the poor-law, including the district medical and hospital services, in England and Wales; and the total cost of hospital services provided under the Public Health Acts in England and Wales for the latest available year.—Sir HILTON YOUNG replied: The estimated expenditure of poor-law authorities in England and Wales on the treatment of persons suffering from bodily or mental infirmity in poor-law establishments or in receipt of domiciliary relief during the year ended March 31st, 1932, was £6,770,628. Details distinguishing the cost of the district medical and hospital services will be found on page 16 of Part I. of the Local Taxation Returns for England and Wales, 1931–32. The total expenditure of local authorites in England and Wales in the same year on hospital services under the Public Health Acts, including hospitals for the treatment of infectious disease, was approximately £10,750,000. Certain expenditure on hospital services was also incurred under the Maternity and Child Welfare Act, but the amount cannot be precisely stated. The amounts mentioned do not include capital expenditure.

MONDAY, DEC. 4TH

Leprosy in India

Mr. TOM SMITH asked the Secretary of State for India whether he was aware of the increase of leprosy in India; what steps were being taken to fight the disease; and whether he could give the numbers of lepers in India for the last three years to the most convenient date.—Mr. BUTLER (Under-Secretary of State for India) replied: The indications are that leprosy is not increasing in India. The number of persons classified as lepers in the Indian census report for 1931 is 147,911. The corresponding figure in the 1921 census report was 102,513. It is probable, however, that on each occasion the real number was considerably in excess of that returned. There is no reason to suppose that leprosy is increasing in India. Many persons suffering from the disease in a mild form who would formerly have not been regarded as lepers are now classified as such. There are no figures on record for any years except the census years. In regard to part two of the question I would refer the hon. Member to the reply given on Nov. 23rd, 1931. Since that date surveys, treatment, research work, and propaganda connected with leprosy have been steadily expanding so that many more lepers are receiving treatment than was then the case. Most of the local governments have now set up organisations for the treatment of the lepers, and in addition the Indian branch of the British Empire Leprosy Relief Association is actively engaged on research work in leprosy in surveying the incidence of the disease and in training doctors in the modern methods of treatment. More detailed information will be found in the journal "Leprosy in India." I am sending the hon. Member the July issue of that journal.

Workers' Deaths at British Celanese Factory

Mr. THORNE asked the Home Secretary whether his attention had been drawn to the deaths of five workers employed at the British Celanese factory at Spondon, near Derby; whether he was making inquiries as to the cause of the deaths; and what action was to be taken to safeguard the employees.—Sir J. GILMOUR replied: Full inquiries are in progress, and meanwhile the manufacturing process in which these men were employed has, I am informed, been entirely discontinued. I should like to take this opportunity of expressing my deep sympathy with the relatives of the men.

TUESDAY, DEC. 5TH

Water-supplies in Scotland

Commander COCHRANE asked the Secretary of State for Scotland whether he had considered the difficulties in connection with the improvement of water-supplies in rural areas in Scotland; and what steps he proposed to take in the matter.

Lord SCONE asked the Secretary of State for Scotland if he was aware that during the past summer the water-supply of a number of Scottish small towns and country districts failed either partially or totally; and whether he would confer with the local authorities concerned with a view to taking steps to augment the present supplies, and thus avoid a repetition of the inconvenience which this year's drought caused.—Mr. SKELTON replied: My right hon. friend is aware of the need for improving the water-supplies in many rural areas in Scotland, and as already announced, it has been decided to make a Government grant available for the purpose. My right hon. friend proposes to direct the special attention of local authorities to the matter and to urge them to carry out works of improvement with the assistance which the grant will offer to them.

Factory Legislation

Viscountess ASTOR asked the Home Secretary whether it was the intention of the Government to introduce legislation to amend the Factory Acts.—Sir J. GILMOUR replied: I regret that there is no prospect of any general amendment of the Factory Acts being undertaken this session.

BRITISH INSTITUTE OF RADIOLOGY

THE annual congress of this Institute is being held this week at the Central Hall, Westminster. On Dec. 6th the exhibition held in connexion with it was opened by Lord Horder, and later in the afternoon Dr. Stanley Melville delivered his presidential address, referring to the history of the use of

X Rays in the Diagnosis of Lung Disease

He pointed out that at first it was viewed with suspicion, often with hostility, and received little or no encouragement from clinicians, with one or two exceptions. He regarded this attitude as natural and inevitable in a profession so properly conservative as that of medicine. A similar attitude had been taken up by clinicians some 100 years previously on the introduction of the stethoscope, which led to a spirited defence of the innovation by Stokes of Dublin.

The president dealt with the possible dangers that attended the combination of the work of clinician and radiologist by the same person. The clinician whose work entailed the production of artificial pneumothorax was an exception, for he naturally liked to have at his disposal means for checking his results by X rays. The tuberculosis officer, again, was one whose whole outlook on the problems with which he was confronted depended upon easy access to X rays. But whenever possible it was to the advantage of all parties for one man to carry out the physical and another the radiological examination, thereafter comparing notes. He went on to discuss the difficulties caused in the early days of radiology by the low-power plant, contrasting this with the splendid apparatus available to-day. He emphasised the fact that the modern self-protected tube which had displaced the old gas-filled tube and had revolutionised radiography was the direct result of the recommendations of the X Ray and Radium Protection Committee.

The difficulty of diagnosis in chest radiography was not sufficiently known. In the perfecting of apparatus the limit had perhaps been reached, for any further detail shown in the radiogram might become a positive embarrassment. It was with this in view that A. Köhler took as the title of his book "Roentgenology, the Borderland of the Normal and the Early Pathological in the Skiagram." The president referred to some recent work by Lassen and Isager, published in the *Ugeskrift for laeger*, in which an attempt was made to determine the best tests for the diagnosis of pulmonary tuberculosis. A careful study of 100 cases revealed the interesting fact that of the seven tests to which each potential case was submitted, the X ray examination alone showed signs in every case.

Another subject dealt with in the course of the address was the value of a standard position in taking radiograms. It was of inestimable value to be able to reproduce months or even years after the original picture had been taken a corresponding picture under identical conditions and this was possible only if a fixed position for centring was adopted.

In conclusion, the president said that a period of nearly 25 years in the X ray department of a large and busy chest hospital would convince one of the futility of X rays as a method of diagnosis or make one an optimist; he himself had become an optimist.

Exhibition of Apparatus

The principal feature this year of the exhibition, which will remain open till 7.45 P.M. to-day (Friday), is shock-proof and ray-proof apparatus of all kinds. One firm manufactures a shock-proof deep therapy tube which will work at 300 k.V., and several 200 k.V. tubes were to be seen. There is now a wide range of mobile ward apparatus with armoured leads and earthed casing for the tube, so that accident due to ignorant or inexperienced handling can almost certainly be avoided.

Messrs. CUTHBERT ANDREWS have designed a shock-free Protexray tube in three sizes, 3, 6, and 10 k.W.; the first two of these are priced at £105 and the last at £116, the prices of the standard models of the same tubes being respectively £37 10*s*., £38 10*s*., and £50. This firm claims to sell the only modern type of X ray tube manufactured throughout in Great Britain from all-British materials.—FREDERICK R. BUTT & Co. have on view a ward unit mounting a shock-proof Protexray tube with a peak of 100 k.V. and an output of 30 m.a.—Messrs. STANLEY COX., LTD. exhibit a shock-proof ward set with a 75 k.V. 20 m.a. Philips tube at £200.—Messrs. A. E. DEAN & Co. exhibit an interesting motor-driven gastric couch with adjustable and tiltable Potter-Bucky diaphragm, in which the cassette can be instantly superimposed for a snapshot. The price with tube is £350. The movement of the Potter-Bucky can be synchronised with that of the patient's diaphragm.—Messrs. NEWTON & WRIGHT, LTD., show a shock-proof and ray-proof Philips deep therapy tube on a counterbalanced Gantry stand, designed for the Marie Curie Hospital. The tube, which is priced at £300, is constructed to work at 200 k.V., but the generator will produce a tension of 300 k.V. if required. The price of the mounting is £195. The same makers exhibit a shock-proof ward set generating 30 m.a. at 100 k.V., priced at £315 complete with the tube.—Messrs. PHILIPS METALIX draw particular attention to a 400 k.V. deep therapy tube. It is as yet, they say, impracticable to design shock-proof casing for use with such a high voltage, but the tube is ray-proof, the electrodes being confined within a substantial lead shield at the middle of the tube. The price is not yet fixed, but will be about £300. They also show a shock-proof Rotalix diagnostic tube with an output of 18 kilowatts and a focus of only 1·22 m.m. squared, at £200; also a gas-filled rectifying valve with a volt drop of 40 volts only as compared with the 3 to 6 k.V. drop of a glass valve.—Messrs. SCHALL & SONS, Ltd., show a neat set designed for a small department or a cottage hospital. It is entirely shock-proof, generates 50 m.a. at 90 k.V., and is fitted with dual control. The price is £250. A special feature of their stand is a "cannon" for deep therapy capable of taking any type of tube, fitted with lateral movement and a motor for ventilating an air-cooled tube or for circulating the water in a jacketed tube. The price is £400 without a tube. Their diagnostic outfit will take any ray-proof tube in a shock-proof casing. They exhibit a mobile shock-proof set, which can be finished in any colour at £200; also a remote-controlled shock-proof high-tension switch-gear, which can be supplied for any number of tubes. The price of a three-way switch is £95.—The SOLUS ELECTRICAL CO. have on view many types of generators, one of the most interesting of which is the ward trolley set with a Metalix shock-proof tube, for £267; the screening-stand model for 4 ft. 6 in. technique costs £355.—The VICTOR X-RAY CORPORATION, LTD., show a combination table with shock-proof over-couch and under-couch screening. The special feature of this apparatus is that the high-tension transformer, filament transformer and tube are housed together in a single unit. The input is therefore only 80 volts. The cooling oil also serves as an insulator. The price is about £600. This firm also shows a 200 k.V. deep therapy tube; it also manufactures a 300 k.V. shock-proof tube, and has constructed a tube to work at 800 k.V. for the New York Memorial Hospital.—Messrs. WATSON & SONS show several models of their shock-proof Sunic apparatus, including the Junior ward outfit at £187 10*s*. and the Standard ward outfit at a somewhat higher price. They also showed the Röntgen power unit, generator, which can be fitted to any type of couch and screening stand.—Messrs. DARBY & Co., LTD. show apparatus for radium therapy, including a sensitive balance for weighing small

quantities of radium, a wide range of needles and seeds in various metals, and a display of special forceps.—Messrs. ILFORD, LTD., in addition to their well-known films and a display of radiograms, show a number of clinical photographs taken with their infra-red screen and film. They claim that this apparatus is a valuable diagnostic aid in lupus; the unhealed areas of skin appearing with a prominence that is not demonstrable in an ordinary photograph.—Messrs. KODAK LTD., in addition to a wide range of radiograms, show a new viewing-box which they have named the X-Ray Illuminator, flat type. Its price is £4, and it can be supplied on a tilting base for 5*s*. extra. Its makers claim a very even distribution of light, and emphasise the value of the blue-tinted glass screen.—Messrs. H. K. LEWIS & CO., LTD., exhibit a wide collection of radiological text-books, including the latest foreign literature.—Messrs. NEWTON & CO., have a comprehensive display of lanterns, epidiascopes, and optical apparatus.

If the prices quoted above seem unusually high, it must be remembered that the fitting of ray-proof tubes with shock-proof casing and leads considerably increases the cost of the whole apparatus. To take one maker's figures—a shock-proof mobile ward unit may cost £315 as against £225 for the same unit non-shock proof. In a diagnostic department employing three tubes (for under- and over-couch screening and for an upright stand) the whole apparatus complete may cost between £1000 and £1200 shock-proof, while it would be obtainable for between £830 and £1000 non-shock proof. For a therapy room with one 200 k.V. tube, shock-proofing may cost an extra £200. The extra outlay will be well spent if it results in the protection of the staff and patients from risks of shock.

MEDICAL NEWS

University of Oxford

The honorary degree of D.Sc. has been conferred on Prof. Arthur Thomson, who is retiring from the Dr. Lee's professorship of anatomy. Mr. Eric Pearce Gould has been appointed a member of the board of electors to this professorship.

Dr. E. B. Verney, professor of pharmacology in the University of London, has been appointed examiner in materia medica and pharmacology in place of Prof. Edward Mellanby.

University of Cambridge

Dr. Henry Albert Harris, professor of clinical anatomy at University College, London, has been elected professor of anatomy in the University in succession to Prof. J. T. Wilson, F.R.S., who is retiring next October.

Dr. Harris, who received his medical education at University College, Cardiff, and University College Hospital Medical School, qualified in 1920. In 1929 he took his doctorate of science in the University of London. He worked as demonstrator, assistant professor, and curator of the anatomical museum of University College, becoming assistant to the medical unit in 1927, and professor in 1931. He was the Arris and Gale lecturer for 1929, and was awarded the Symington prize in 1929 and the Alvarenga prize in 1930. In 1932 he was elected a Fellow of University College. His publications include papers on bone metabolism and growth.

On Dec. 2nd the following degrees were conferred:—

M.B., B.Chir.—G. F. Carey.
M.B.—G. J. Meikle, W. S. Dyson, and J. G. V. Smith.

University of London

At recent examinations the following candidates were successful:—

D.P.M.

William Blyth, Doreen P. Firmin, Edith G. Limmex, James Valentine (with special knowledge of psychiatry), and Donald Magrath (with special knowledge of mental deficiency).

Society of Apothecaries of London

At recent examinations the following candidates were successful:—

Surgery.—H. L. Canaval, Univs. of Vienna and Bristol; A. C. E. Cole, Univ. of Camb. and St. Mary's Hosp.; S. Grodd, St. Mary's Hosp.; E. G. Houghton, Univ. of Camb. and St. George's Hosp.; H. G. Howitt, London Hosp.; H. R. Kasday, Middlesex Hosp.; and E. C. Rowlands, St. George's Hosp.

Medicine.—R. Fleming, Univ. of Geneva and London Hosp.; H. D. Robinson, Guy's Hosp.; A. L. L. Silver, Univ. of Oxf. and London Hosp.; and H. B. Thornton, Guy's Hosp.

Forensic Medicine.—C. A. Boucher, Univ. of Oxf. and Guy's Hosp.; C. N. Chowdary, Univ. of Durham; W. C. Heunis, London Hosp.; G. L. R. Tapsall, St. Mary's Hosp.; and G. Wilson, Guy's Hosp.

Midwifery.—C. N. Chowdary, Univ. of Durham.; C. W. Cross, London Hosp.; H. R. Kasday, Middlesex Hosp.; A. G. Manley and J. Richter, St. Mary's Hosp.; S. E. Roberts and H. D. Robinson, Guy's Hosp.; S. M. Sabet, Welsh National School of Medicine, Cardiff; and R. Sugarman, Univ. of Basle and Royal Free Hosp.

The following candidates, having completed the final examination, are granted the diploma of the society entitling them to practise medicine, surgery, and midwifery:—

A. L. L. Silver, G. L. R. Tapsall, and H. B. Thornton.

At a recent examination Dr. J. H. Mulvany satisfied the examiners for the diploma of master of midwifery.

Dinner of the Society of Apothecaries of London.—At a yeomanry dinner on Tuesday last the freedom of this society was conferred on Prof. Edward Mellanby, F.R.S., secretary of the Medical Research Council. In introducing him, Sir William Willcox, the senior warden, spoke of the long service of his brother, Prof. John Mellanby, F.R.S., as one of the society's examiners, and said that in welcoming the new freeman they wished also to honour his co-worker and wife, Mrs. May Mellanby. Formerly the laboratory worker was jealous of the clinician's financial rewards: nowaday the clinician longed for the high wages and short hours of those whose lives were spent in laboratories. It had been Prof. Mellanby's achievement at Sheffield to unite these jealous factions in his own person. His knowledge of the physiology of calcium was unrivalled, and his contributions to the study of vitamins were of high importance; while his investigations concerning alcohol were still quoted by teetotallers and (in selected passages) by brewers. In reply, Prof. Mellanby said that in reviewing the work of the Medical Research Council during the late Sir Walter Fletcher's secretaryship he had been struck by the amazing progress made in medicine during the last 20 years. Yet in a world where the laws of thermodynamics were overturning, the outlook of the profession remained more or less static and Victorian; it retained its conviction of progress; it believed that every year pain and disease and suffering were getting less. Long might this outlook continue. Lieut.-Colonel C. T. Samman, past-master of the society, proposing the Guests, spoke of the evolution of after-dinner speaking from the savage custom of making human sacrifices at feasts. He welcomed, among others, Prof. A. Harden, F.R.S., and Prof. R. Robison, F.R.S., of the Lister Institute, Sir Arthur Robinson (secretary to the Ministry of Health), Sir Frederick Menzies, Mr. Warren Low, Sir Bernard Spilsbury, Mr. M. Heseltine (registrar of the General Medical Council), Sir John Thomson-Walker, Sir Joseph Skevington, Mr. H. S. Souttar, and as deans of medical schools, Mr. Girling Ball, Dr. C. M. Wilson, Mr. E. A. Crook, Prof. W. Wright, Dr. A. M. H. Gray, and Prof. A. W. Sheen. Prof. Harden, in his reply, referred to the contrast between discoveries due to steady advance—for example, the isolation of calciferol which crowned the work on vitamin D in which Prof. Mellanby had played so large a part—and those made casually. No one would have expected the isolation of vitamin C to come from the study of reducing substances in the suprarenal cortex. Mr. Souttar, also replying, expressed his relief that the society should have decided, hundreds of years ago, to put its knowledge of drugs at the service of the public. Catherine de Medici about the same time was putting hers to political purposes. Dr. Cecil Wall, past-master, proposing the toast of the Society, described the Parliamentary discussions, exactly a century ago, on the Apothecaries Act Amendment Bill, and the measures taken by the society to turn medical tradesmen into a profession. The Master (Dr. J. O. Wakelin Barratt) said that the society had always been a fighting society. It was still progressive but wished to work wherever possible with other medical organisations.

Royal Faculty of Physicians and Surgeons of Glasgow

At the monthly meeting of the Faculty on Dec. 4th, the following were admitted Fellows of Faculty: James Inglis Cameron, M.B., of Glasgow; Charles Aikman Gourlay, *D.S.O.*, M.D., of Bishopton; Rajinder Singh Grewal, L.M.S., of London; and Andrew Hunter, M.B., of Glasgow.

Society for the Study of Inebriety

A meeting of this society will be held in the rooms of the Medical Society of London, 11, Chandos-street, W., on Jan. 9th, at 4 P.M., when Sir William Willcox will open a discussion on medico-legal aspects of alcohol and drug addiction.

West Kent Medico-Chirurgical Society

A meeting of this society will be held to-day, Friday, Dec. 8th, at 8.45 P.M., at the Miller General Hospital, Greenwich, S.E. Sir Charles Gordon-Watson will deliver the Purvis oration, taking as his subject Progress in Rectal Surgery.

Hospital Officers' Diplomas

The first diploma of fellowship (honoris causa) of the Incorporated Association of Hospital Officers was presented at the recent annual meeting to Sir Arthur Stanley, vice-patron of the association. Sir Arthur afterwards presented diplomas to Sir Ernest Morris, Sir James Michelli, and other senior hospital secretaries.

Eugenics Society

A meeting of this society will be held on Tuesday, Dec. 19th, at 5.30 P.M., at the rooms of the Linnean Society, Burlington House, Piccadilly, London, W., when there will be a discussion on family allowances. The speakers will include Mrs. Eva Hubback, Mr. C. V. Drysdale, D.Sc., Mr. C. C. Hurst, Ph.D., and Lady Askwith.

Australian and New Zealand Medical Association in England

The winter dinner of this association will be held at the Trocadero Restaurant, Piccadilly, on Friday, Dec. 15th, at 7.45 for 8 P.M. Mr. L. Graham Brown will preside, and Mr. Cecil Rowntree will be the official guest. All medical visitors from Australia and New Zealand, whether members of the association or not, are invited to be present. The hon. secretaries (Mr. E. T. C. Milligan and Mr. Philip Jory) may be addressed at 26, Queen Anne-street, W.1.

Research in Mental Disease in Ireland

Our Dublin Correspondent writes:—"The Irish Division of the Medico-Psychological Association is, it is stated, endeavouring to interest the Government of the Irish Free State in the establishment of a national laboratory for pathological investigation in cases of mental disease. It is, indeed, well over 30 years since this project was first put forward, but successive Governments failed to give it support. The present Minister for Local Government and Public Health has, however, shown interest in the care and treatment of mental disease, and it is understood that representations will shortly be made to him. The suggestion is that there should be a central laboratory which would have access to material from the several public mental hospitals in the country. In addition to strictly pathological investigation there should be research in biochemical and social fields, including the study of hereditary factors."

A Tribute to Prof. Hume

On Nov. 29th Dr. W. E. Hume was entertained to dinner at the Royal Station Hotel, Newcastle-on-Tyne, by his house physicians, past and present, to celebrate his completion of 25 years as a member of the honorary staff of the Royal Victoria Infirmary. The senior of his hosts, Dr. E. D. Smith, of Whickham, proposed his health, which was drunk with great enthusiasm. Dr. Hume, in reply, paid tribute to great teachers and mentioned more especially the late Sir David Drummond, the late Sir Byrom Bramwell, Prof. Robert Howden, and Mr. John Clay. He indulged in reminiscences of his early days in London and Newcastle and expressed his opinion that in modern medical education the clinical side is tending to sink too much into the background. Dr. Alan Angus thanked Dr. Hume on behalf of those present for the signed portraits which he had given to them.

Cork Clinical Society

At a meeting of this society on Nov. 17th Dr. C. B. Pearson discussed a case of impacted ureteric calculus, and Dr. D. F. Hegarty a case of renal calculus, both showing specimens and pyelograms. Dr. B. F. Honan brought forward a patient with early mental changes, and the diagnosis and treatment were discussed. Prof. J. M. O'Donovan showed a patient with mitral stenosis, and demonstrated some new points in the diagnosis of this condition, especially with electrocardiography and radiography.

Enlargement of Huddersfield Royal Infirmary

On Friday last week Lord Moynihan opened an extension of this hospital. Out-patients and casualty patients will now be dealt with on a one-way traffic system, and the out-patients' waiting-room will be seated for 300 persons. There is a complete adenoids and tonsils unit for children who, instead of returning home immediately, will occupy a recovery room for two or three days. Massage patients will be dealt with by appointment, and 28 can be dealt with simultaneously. The nursing and domestic accommodation has been enlarged, and each nurse and maid will have a separate room.

Medical Diary

Information to be included in this column should reach us in proper form on Tuesday, and cannot appear if it reaches us later than the first post on Wednesday morning.

SOCIETIES

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.
MONDAY, Dec. 11th.—4.30 P.M., UNITED SERVICES. Colonel E. M. Cowell: Air Ambulances.
TUESDAY.—5 P.M., PSYCHIATRY and THERAPEUTICS AND PHARMACOLOGY. The Uses and Dangers of Hypnotic Drugs Other than Alkaloids. Joint discussion to be opened by Dr. F. L. Golla, Dr. P. K. McCowan, Sir William Willcox, and Prof. J. A. Gunn, followed by Dr. Roche Lynch, Dr. G. W. B. James, and others.
WEDNESDAY.—8.30 P.M., SURGERY. Pathological meeting.
FRIDAY.—8.15 P.M., PHYSICAL MEDICINE and OBSTETRICS AND GYNÆCOLOGY. The Value of Physical Medicine in Gynæcological Conditions. Joint discussion to be opened by Dr. E. P. Cumberbatch, Dr. Leonard Boys, Mr. Martin Oldershaw, and Dr. J. S. Fairbairn, followed by Dr. Agnes Savill and others.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.
MONDAY, Dec. 11th.—8.30 P.M., Discussion on Staphylococcal Infections, to be introduced by Mr. Claude Frankau, Dr. J. H. Thursfield, and Dr. L. E. H. Whitby.

HARVEIAN SOCIETY OF LONDON.
THURSDAY, Dec. 14th.—8.30 P.M. (at the Town Hall, Paddington), Dr. Lionel Penrose: The Influence of Heredity on Disease. (Buckston Browne Prize Essay.)

NORTH LONDON MEDICAL AND CHIRURGICAL SOCIETY, Royal Northern Hospital, Holloway-road, N.
WEDNESDAY, Dec. 13th.—9 P.M., Dr. S. Monckton Copeman and Dr. Claude Gouldesbrough: The Effect of Liberation of Invisible Ultra-violet from the Nucleus of a Cell and its Bearing on Cancer Treatment.

MEDICAL SOCIETY OF INDIVIDUAL PSYCHOLOGY, 11, Chandos-street, W.
THURSDAY, Dec. 14th.—8.30 P.M., Dr. Frank Layton: Purpose and Some Neuroses. Dr. O. H. Woodcock: The Tyranny of the Invalid.

SOUTH-WEST LONDON MEDICAL SOCIETY, Bolingbroke Hospital, Bolingbroke-grove, Wandsworth Common, S.W.
WEDNESDAY, Dec. 13th.—9 P.M., Mr. P. H. Mitchiner: When to "Wait and See" in Acute Appendicitis.

ROYAL SOCIETY OF TROPICAL MEDICINE AND HYGIENE, Manson House, Portland-place, W.
THURSDAY, Dec. 14th.—8.15 P.M., Colonel W. P. MacArthur: Cysticercosis as seen in the British Army. Preceded at 7.45 P.M. by a demonstration.

SOCIETY OF MEDICAL OFFICERS OF HEALTH, 1, Upper Montague-street, Russell-square, W.C.
FRIDAY, Dec. 15th.—5 P.M., Discussion on the Organisation and Administration of the School Medical and Dental Services. Opened by Dr. Andrew Davidson and Mr. C. Doswell Wallis.

PADDINGTON MEDICAL SOCIETY.
TUESDAY, Dec. 12th.—9 P.M. (at the Hospital for Epilepsy and Paralysis, Maida Vale), Dr. Wilfred Harris: Clinical Demonstration.

HACKNEY MEDICAL SOCIETY, Metropolitan Hospital, Kingsland-road, E.
WEDNESDAY, Dec. 13th.—9.30 P.M., Mr. R. Coyte: Enlarged Prostate.

BIOCHEMICAL SOCIETY.
FRIDAY, Dec. 15th.—4.30 P.M. (at St. Thomas's Hospital Medical School, S.E.), Communications.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF SURGEONS, Lincoln's Inn-fields, W.C.
THURSDAY, Dec. 14th.—5 P.M., Prof. A. H. Burgess: Electrosurgery. (Bradshaw Lecture.)

CHARING CROSS HOSPITAL MEDICAL SCHOOL.
SUNDAY, Dec. 10th.—10.30 A.M., Mr. L. G. Brown: Management of Ear, Nose, and Throat Cases in General Practice. 11.45 A.M., Surgical Cases of Interest, illustrated by photographs.

KING'S COLLEGE HOSPITAL MEDICAL SCHOOL, Denmark-hill, S.E.
THURSDAY, Dec. 14th.—4.30 P.M., Dr. J. M. Hamill: Milk. 9 P.M., Dr. W. Sheldon: Some Aspects of Enuresis.

CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL, Gray's Inn-road, W.C.
FRIDAY, Dec. 15th.—4 P.M., Mr. F. W. Watkyn-Thomas: Lateral Sinus Thrombosis.

ROYAL NORTHERN HOSPITAL, Holloway-road, N.
THURSDAY, Dec. 14th.—3.15 P.M., Dr. H. C. Semon: Eczematoid Ringworm.

LONDON SCHOOL OF DERMATOLOGY, St. John's Hospital, 49, Leicester-square, W.C.
TUESDAY, Dec. 12th.—5 P.M., Dr. S. E. Dore: Erythemato-squamous Eruptions.
THURSDAY.—5 P.M., Dr. J. A. Drake: Urticaria.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, W.C.
TUESDAY, Dec. 12th.—11.30 A.M., Dr. A. G. Signy: BCG, in the Prevention of Tuberculosis.
WEDNESDAY.—9.30 A.M., Skin Clinic. 2 P.M., Dental Clinic.
THURSDAY.—2 P.M., Tonsils, Adenoids, and Anæsthesia.
SATURDAY.—9.30 A.M., Eye Clinic.
Medical and Surgical Out-patient Clinics: daily from Mond. to Sat., 10 A.M. to 12 noon. Medical Wards: mornings, 10 A.M., Mond., Wed., Thurs., and Sat.; afternoons, 2 P.M., Mond., Tues., Thurs., and Frid. Surgical Wards: Tues., Thurs., Frid. mornings, and Wed. afternoon.

HAMPSTEAD GENERAL AND NORTH-WEST LONDON HOSPITAL.
WEDNESDAY, Dec. 13th.—4 P.M., Mr. W. H. Ogilvie: Pre- and Post-operative Treatment in Surgical Cases.

BROWN INSTITUTION.
WEDNESDAY, Dec. 13th, and two following days.—5 P.M. (London School of Hygiene and Tropical Medicine, Keppel-street, W.C.), Prof. F. W. Twort, F.R.S.: Present-day Problems in Bacteriology. (Series of five lectures.)

SOUTH-WEST LONDON POST-GRADUATE ASSOCIATION, St. James Hospital, Ouseley-road, Balham, S.W.
WEDNESDAY, Dec. 13th.—4 P.M., Dr. W. J. O'Donovan: Pathomimia Cutanea and the Workmen's Compensation Act.

ROYAL INSTITUTE OF PUBLIC HEALTH, 23, Queen-square, W.C.
WEDNESDAY, Dec. 13th.—4 P.M., Miss Norah March: Health Education and Propaganda.

ANCOATS HOSPITAL, Manchester.
THURSDAY, Dec. 14th.—4.15 P.M., Dr. A. Renshaw: Kidney Efficiency. (Followed by a demonstration in the Laboratory.)

MANCHESTER ROYAL INFIRMARY.
TUESDAY, Dec. 12th.—4.15 P.M., Dr. T. H. Oliver: Pyelitis.
FRIDAY.—4.15 P.M., Dr. E. B. Leech: Demonstration of Medical Cases.

LEEDS GENERAL INFIRMARY.
TUESDAY, Dec. 12th.—4 P.M., Mr. Richardson: Demonstration of Surgical Cases.

GLASGOW Post-graduate Lectures.
WEDNESDAY, Dec. 13th.—4.15 P.M. (at the Royal Infirmary), Mr. James Taylor: Surgical Cases.

Appointments

DOBSON, J. G., M.B., Ch.B. Camb., has been appointed Medical Referee under the Workmen's Compensation Act for the Duns Sheriff Court District (Roxburgh, Berick, and Selkirk).

HERBERT, S., M.D. Vienna, M.R.C.S., L.R.C.P. Lond., reappointed Medical Referee to the Board of Control for Manchester and District.

LEWIS, G. ERIC, M.B. Camb., M.R.C.P. Lond., Hon. Physician to the Royal Infirmary, Hull.

SELLORS, T. H., D.M., M.Ch. Oxf., F.R.C.S. Eng., Asst. Surgeon to the City of London Hospital for Diseases of the Heart and Lungs, Victoria Park.

SOLOMONS, BETHEL, M.D. Dub., F.R.C.P. Irel., Gynæcologist to Dr. Steevens' Hospital, Dublin.

Certifying Surgeons under the Factory and Workshop Acts: CLYNE, C., M.B., Ch.B. Aberd. (Cross Hills, York); MCTAVISH, J. S., M.B., Ch.B. Glasg. (Millport, Bute).

London County Council Hospital Staff.—The following appointments, promotions, and transfers are announced. A.M.O. (I.) and (II.) = Assistant Medical Officer, Grades I. and II.
BAILEY, E. T., F.R.C.S. Eng., Senior A.M.O. (I.), St. Leonard's.
BROWNLEE, J. G., M.D., Queen's Univ., Ontario, A.M.O. (I.), Lewisham.
BURGES, C. P., M.B. Edin., A.M.O. (I.), Princess Mary's Hospital for Children.
BUTTERWORTH, JOAN, M.B. Lond., A.M.O. (I.), Northern.
O'DONNELL, M. J., M.B., N.U.I., A.M.O. (I.), Grove Park.
TWOHILL, J., M.B. Dubl., A.M.O. (I.), St. Leonards.

Vacancies

For further information refer to the advertisement columns

Ashton-under-Lyne District Infirmary.—H.S. At rate of £150.
Barnsley, Beckett Hospital and Dispensary.—Cas. O. £250.
Birkenhead General Hospital.—Hon. Asst. Surgeon.
Birmingham General Hospital.—Res. Surg. Reg. £100–£140.
Blackburn Royal Infirmary.—Third H.S. £175.
Bolton Royal Infirmary.—H.P. £200.
Bristol General Hospital.—H.P.'s., H.S.'s, &c. At rate of £80. Also Cas. H.S. At rate of £100.
Cancer Hospital, Fulham-road, S.W.—H.S. At rate of £100.
Canterbury, Kent and Canterbury Hospital.—H.S. At rate of £125.
Central London Ophthalmic Hospital, Judd-street, W.C.—Jun. H.S. £100.
Chesterfield and North Derbyshire Royal Hospital.—Cas. O. At rate of £200.
Colchester, Essex County Hospital.—Asst. H.S. £120.
Colchester, Royal Eastern Counties' Institution.—Med. Supt. for Bridge Home, Witham. £550.
Durham University and College of Medicine, Public Health Laboratory.—Whole-time Asst. £350.
Evelina Hospital for Sick Children, Southwark, S.E.—H.S. At rate of £120.
Fulham Hospital, St. Dunstan's-road, Hammersmith, W.—Clin. Asst. £100.
Harrogate, Royal Bath Hospital.—Res. M.O. At rate of £156.
Hospital for Consumption and Diseases of the Heart, Brompton, S.W.—Res. M.O. £350.
Hull Municipal Maternity Home and Infants' Hospital.—Jun. Res. M.O. £100.
Ilford, King George Hospital.—H.S. At rate of £100.
Infants Hospital, Vincent-square, Westminster.—Asst. Ophth. Surgeon. Also Clin. Asst. to Radiological Dept.
Liverpool Hospital for Consumption and Diseases of the Chest, Mount Pleasant.—Hon. Surgeon.
London Hospital, E.—Surg. First Asst. and Reg. £300.
Macclesfield General Infirmary.—Second H.S. £150.
Manchester Ear Hospital, Grosvenor-square, All Saints.—Res. H.S. £120.
North Middlesex County Hospital.—Jun. Res. Asst. M.O. £250.
Norwich, Norfolk and Norwich Hospital.—H.S., H.S. to Special Depts. Each £120.
Nottingham Children's Hospital.—Res. H.S. At rate of £150.
Portsmouth Royal Hospital.—H.P. At rate of £130.
Princess Beatrice Hospital, Richmond-road, Earl's Court, S.W.—Res. M.O. At rate of £110.
Princess Elizabeth of York Hospital for Children, Shadwell, E.—Asst. Physician. £40.
Queen's Hospital for Children, Hackney-road, E.—Physician for Skin Dept.
Reading, Royal Berkshire Hospital.—H.S. £150.
Royal Free Hospital, Gray's Inn-road, W.C.—Res. Cas. O. At rate of £150.
St. Olave's Hospital, Lower-road, Rotherhithe, S.E.—H.P. £80.
St. Peter's Hospital, Whitechapel.—Res. Med. Supt. £1000.
St. Stephen's Hospital, Fulham-road, S.W.—Asst. M.O. £350.
Shanghai Municipal Council, Pub. Health Dept.—Asst. M.O. 650 Taels per mensem.
Sheffield Children's Hospital.—H.S. At rate of £100.
Sheffield Royal Infirmary.—Two H.S.'s., H.P., Ophth. H.S., Asst. Cas. O., and Asst. Aural and Ophth. H.S. Each at rate of £80.
South-Eastern Hospital for Children, Sydenham, S.E.—Jun. Res. M.O. At rate of £120.
Stamford, Rutland and General Infirmary.—H.S. At rate of £200.
Stoke-on-Trent, Stanfield Sanatorium.—Asst. Tuber. O. £350.
Torquay, Torbay Hospital.—H.S. £175.
Warrington Infirmary and Dispensary.—H.S. £150.
Wigan, Royal Albert Edward Infirmary and Dispensary.—H.S. At rate of £150.
Willesden General Hospital, Harlesden-road, N.W.—Cas. O. At rate of £100. Also Clin. Assts. for Out-patients' Dept.
Woolwich and District War Memorial Hospital, Shooter's-hill, S.E. H.P. and H.S. Each at rate of £100.
The Chief Inspector of Factories announces vacant appointments for Certifying Factory Surgeons at Tewkesbury (Gloucester) and Mossley (Lancaster).

Births, Marriages, and Deaths

BIRTHS

MACKENZIE.—On Dec. 3rd, at Kasauli, India, the wife of Major E. F. W. Mackenzie, O.B.E., M.C., R.A.M.C., of a son.

WILLOUGHBY.—On Nov. 30th, at Welbeck-street, the wife of Dr. G. M. Willoughby, of Llandudno, of a son.

DEATHS

COCHRANE.—On Nov. 29th, Colonel Edward Webber Warren Cochrane, D.S.O., late R.A.M.C.

PEACOCK.—On Nov. 29th, at The Lawn, Torquay, Henry George Peacock, M.R.C.S., L.R.C.P., in his 88th year.

ROGERSON.—On Nov. 22nd, John Thomas Rogerson, M.R.C.S. Eng., 1881; M.B. (Honours in Med.) and B.S., 1883; M.D., 1884; U. Lond. (Owens College, Manchester, University College, London, and Rotunda Hospital, Dublin), Assoc. Owens College, of Ballamillaghyn, Mount Rule, near Douglas, Isle of Man, aged 76 years.

FORBES WINSLOW.—On Dec. 2nd, 1933, at 3, Stanley-road, Hastings, Lieut.-Colonel Lyttleton Francis Forbes Winslow, late R.A.M.C., dearly loved husband of May Winslow, aged 61.

N.B.—A fee of 7s. 6d. is charged for the insertion of Notices of Births, Marriages, and Deaths.

NOTES, COMMENTS, AND ABSTRACTS

WATER-SUPPLIES IN THE COUNTRYSIDE

THE last of the present series of Chadwick lectures was delivered in London on Dec. 5th by Mr. J. H. Coste, chemist to the London County Council, and its subject was rural sanitation. He pointed out that in rural districts the water available for all purposes might be as little as 5 gallons per head per day, compared with 35 gallons or more in towns, and in dry periods it might fail altogether. Mr. Douglas Worger stated that over six million people in rural England are without piped water-supplies. A piped supply to individual houses cannot be available, in many districts, for some years, but, in Mr. Coste's opinion, there might well be a public supply in every village, if only in the form of a stand tap, spring, well, or pump, of good water—either initially good or adequately purified—with some storage. There might be a "water house" with a public fountain, a lavabo for domestic washing, such as one sees on the continent, baths and a large boiler of the kind now usually installed in houses, with a large storage tank over all. Every village near a fairly clean stream should have a safe bathing place, however simple. Small ponds and tank baths without filtration and chlorination are sanitary only when the use is very limited. The problem of isolated houses, said Mr. Coste, is more difficult than that of villages or institutions, especially when they are dependent upon shallow wells. Even then a good lay-out in relation to disposal of excreta and chlorination which can be made a simple process should in any case furnish a safe supply. The conservation of rainwater is to be recommended. When the water-supply is insufficient to allow the use of water carriage for excreta, disposal must be by means of a well-designed soak-away. Chemical closets or properly used earth closets are preferable to privies or cesspools. If a water-closet system can be used, treatment of the ripened sewage on land may in certain cases offer a simple solution; but if suitable land is not available combinations of anaerobic and aerobic processes must be adopted, and will, with care, and the avoidance of the use of disinfectants, be found satisfactory. Where land is dear and fairly skilled attention is available small activated sludge plants seem to offer the best solution of the disposal problem.

THE MOULTING OF INSECTS

MANY medical men are entomologists and may be interested in a scholarly article [1] by Dr. V. B. Wigglesworth, of the London School of Hygiene, on the structure of the skin and the physiological mechanism of moulting. As subject he has used the disgusting bug *Rhodnius prolixus*, which transmits the South American trypanosomiasis and has a convenient liking for living and breeding well in captivity. The skin is made up of an extremely thin outer layer (epicuticle) made of some firm substance not chitinous and apparently allied to the suberine of plants, and a much thicker laminated endocuticle composed of protein and chitin. The outer layer is in the adult insects impregnated with the same material as the epicuticle, and is thus hardly distensible, so that room is made in the insect for its enormous feeds of blood by an arrangement of pleats along the sides of the abdomen; in the nymph the cuticle is more distensible, and they can take in up to 12 times their own weight of blood at a single meal. As moulting approaches, the epidermal cells multiply and some of them become full of uric acid which is probably a waste product of the manufacture of the new cuticle. The dermal glands, which are formed anew at each moult, secrete the moulting fluid, the main function of which is to digest the old cuticle; it contains, therefore, proteinase and chitinase, the products of solution being absorbed into the body, and, if necessary, excreted by the usual channels. The whole tale is an excellent example of that elegant combination of refined microscopical technique, chemical testing, and functional interpretation for which the author is well known.

[1] Quart. Jour. Microscop. Sci., 1933, lxxvi., 269.

A NEUROLOGICAL DIAGNOSTIC SET

Dr. R. LOUIS ROSE writes: The accompanying illustration shows a diagnostic set which I would like to bring to the notice of the increasing numbers of medical men interested in "nervous" disease. Contained very compactly in a thin leather case measuring only $7\frac{1}{2} \times 5 \times 1\frac{1}{4}$", it consists of a large-handle ophthalmoscope, patella hammer, disc-foot tuning-fork, æsthesiometer callipers, and touch-and-pain tester. I have also had included both aural and nasal specula.

The set has been carried out to my design by Messrs. Allen and Hanburys Ltd., of Wigmore-street, London, W.1.

THE PHARMACEUTICAL POCKET BOOK

IT is now more than 25 years since Mr. John Humphrey edited the first Pharmacy Students' Pocket Note-book, of which the present comely volume is the twelfth edition. The eleventh was produced in 1925 by the science committee of the Pharmaceutical Society, a fact which is sufficient guarantee of its accuracy. The Pocket Book naturally begins with an account of the activities of the Pharmaceutical Society itself, passing on to the method of entering pharmacy and an account of the science and art of dispensing. The rest of the book is given up to methods of analysis and tables of weights, measures, scales, and equivalents. It seems, perhaps, rather perverse, when the British Pharmacopœia of 1932 has omitted imperial weights and measures in the formulæ of official products, for the Pocket Book to devote 50 pages to replacing them, but it seems that this concession will be valued by the pharmacist. A very valuable section of the Pocket Book for reference is the dictionary of synonyms and trade names in common use, which occupies 70 pages and contains at a hazard 3360 items. The present book has been edited by Mr. C. W. Maplethorpe with collaboration of several members of the Pharmaceutical Society's staff. The price is 5*s.* 6*d.* post free, from the Pharmaceutical Press, 23, Bloomsbury-square, London, W.C.1.

PROSTATIC BARS IN IDENTICAL TWINS

CONGENITAL median bar in twins is described by Dr. Otto J. Wilhelmi,[1] who divides prostatic bars into the following classes: (1) a sclerotic dam across the prostatic neck; (2) a fibrous bar which pulls down the inter-ureteric ridge close to the vesical orifice; (3) a glandular bar; and (4) a hypertrophy of Albarran's subcervical glands. The two patients were twins, 27 years of age, who were so much alike that they could hardly be distinguished from each other. They resembled each other not only externally but also internally, for when their bladders were examined with the cystoscope, identical malformations were found at the bladder necks. Another peculiarity was that the two boys started at about the same time to be annoyed by urinary symptoms. They were both subjected to vasoligation followed by resection of the bar under spinal anæsthesia. Both of them left the table with no bleeding and both were completely cured of their disability.

[1] Jour. Amer. Med. Assoc., Sept. 9th, p. 847.